A Bibliography on Indian Megaliths

With an introduction by Sri. B. K. Thapar, Director, Archaeological Survey of India.

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By

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Dedicated to

THE MEMORY OF MY PARENTS

PREFACE

For nearly a century and a half, the problem of the 'megalithic' burials has been engaging the attention of the scholars in India. The pioneering work done by the earlier scholars has been supplemented by the intensive researches and has added new dimensions to the problem. Yet, the problem of the 'megaliths' remains far from solved. The present *Bibliography* aims at providing the scholars interested in the area of study with a ready-reference to the vast published material.

As this material is published in various journals and books, some of which are either difficult of access or are out of print, it has been the endeavour of the compiler not merely to list but also to provide brief synopsis of each entry which are listed alphabetically. In order to provide the reader with ready-reference, an index of the megalithic types, index of sites and a general index have also been added. For the sake of completeness, a glossary of terms, besides a chart equating the terminology and nomenclature used by various authors with that of Krishnaswami, and which is the accepted terminology of the Archæological Survey of India, has also been added. A distribution map of the megaliths and photographs supplement the *Bibliography.*

Sri B. K. Thapar, Director in the Archæological Survey of India, has kindly written the introduction; to him my grateful thanks are due. My colleague Sri B. M. Pande gave me several valuable suggestions and I am obliged to him. I am truly beholden to Sri R. Nagaswamy, Director, Department of Archæology, Government of Tamilnadu for readily accepting to publish the *Bibliography.*

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NEW DELHI
March, 1971

K. S. RAMACHANDRAN

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INTRODUCTION

Ever since the publication in 1872 of James Fergusson's classic work *Rude stone Monuments in All Countries; Their Age and Uses,* interest in the study of megaliths has been steadily increasing. It is a curious reflection though that this swift enlargement in the understanding of the subject simultaneously posed intriguing problems, notably those relating to the origins and apparent inter-relationship between the common phenomena present in the monuments of different countries. We have no doubt travelled a long way from the days of hyper-diffusionists like Elliot Smith and W. J. Perry who thought, without any pretence at scientific method, that megalithic monuments all over the ancient world with the apparent wide diversity of form had been diffused from ancient Egypt. It must be averred that megalithism is not an easily assimilable tale but represents a widespread phenomena; its geographical and chronological significance varies from place to place. Due to the unremitting efforts of many workers in the field, especially during the last two decades or so, the general aspects of the problem have, however, begun to take shape. At the same time, a synthetic account of the scattered facts with a view to reconstructing a series of events is at present fraught with risks. With a view to promoting such studies, an International Commission for Megliths has now been formed, as proposed at the Second International Congress of Archeocivilization.[1] It is now hoped that co-ordinated effort would be directed for the appraisal of such problems as classification and distribution of megaliths all over the Old World and the New.

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1. Andre Varagnac, 'L'etude internationale des megalithes', *Antiquities Nationales et Internationales,* Fascicule I, Mai 1960, pp. 15-16.

In India the megalithic tombs of Malabar, locally known as *Pand o Coolies*, attracted attention as early as 1823.[1] Since then many regions have been explored and many monuments excavated with varying standards of scientific discipline with the result that some sort of a 'megalithic archive' has been built up in this country. For affording precision to future research in the subject, the present bibliography has been compiled. This in itself is a basic tool and as such an important element of scientific endeavour.

In the context of this bibliography, it would perhaps be desirable to out line the salient features of the Indian megalithic tombs and related monuments.

(i) They show denser distribution in the Deccan and south India. Outside the peninsula, these have been reported from: Baluchistan and Persian and Baluch Makran; Waghodur and Murad Memon within a radius of thirty-two km. of Karachi (Pakistan); Leh valley of Ladakh; Burzahom in the vicinity of Srinagar, Asota, twenty-seven km. east north-east of Mardan in the former North-western Frontier Province (now in Pakistan); Deosa, fifty-two km. east of Jaipur in Rajasthan; Khera within thirty two km. of Fatehpur Sikri Deodhoora twenty-nine km. south-east of Almora; Badaun-kalan, Kotia and Mando in District Allahabad Arunapur-Lauria, Barkachcha, Beni, Chittampur, Deopur, Jorha and Lal-purawa in District Mirzapur; Bhadahwan pahar and Kakoria in District Varanasi, all in Uttar Pradesh; and in Seraikala District Singhbhum in Bihar. To this formidable list may be added the 'megaliths' of north-eastern India, extending from Assam to Bastar, and belonging perhaps to south-eastern Asia, being introduced into north-eastern India by Austroasiatic immigrants.

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1. J. Babington, 'Descriptions of the Pandoo Coolies in Malabar', *Trans. of the Literary Society of Bombay*, Vol. III (1823), pp. 324–330.

Three regional complexes may at the present moment be recognized: (i) peninsular, (ii) extra-peninsular, comprising essentially northern and north western India and (iii) north-east India. Besides, on the north-western borders of the subcontinent, especially in Baluchistan and Baluch and Persian Makran Cairn-burials with their characteristic ware, sometimes painted with a band of volutes or spirals, and showing the use of iron and domestication of horse, form yet another group. An inter-relationship between the megalithic customs of these areas has not been worked out, and though still speculative, is becoming a subject matter of increasing investigation. Whereas the megaliths of the north-eastern India have been extensively studied, and are found to be more or less a living tradition of the aborigines,[1] very little systematic work has been done on those of the other extra-peninsular complex. Recent excavations of some of the megalithic tombs in District Allahabad have also established the presence of the iron appendage in the graves. In the same region (Districts Mirzapur and Varanasi), iron was not recorded in the excavated megalithic tombs which, nevertheless, show family likeness to those of District Allahabad and of the peninsula.[2]

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1. Mortimer Wheeler, *Early India and Pakistan* (London, 1959), pp. 150–51; C. von Furer-Haimendorf, 'The Problem of Megalithic Cultures in Middle India' *Man in India*, vol. 25 (1945), pp. 73–86; W. V. Grigson, *The Maria Gonds of Bastar* (London, 1938); J. H. Hutton, 'The Meaning and Method of the Erection of Monoliths by the Naga Tribes', *Journ. Roy. Anthrop. Inst.*, vol. III (1922), pp. 242–49 and 'The use of Stone in the Naga Hills'. *ibid.*, vol. LVI (1926); C. von Furer-Haimendorf, *The Naked Nagas* (London, 1939); R. von Heine-Geldern, 'Die Megalithen Sudostasiens and ihre Bedeutung', *Anthropos*, vol. XXIII (1928); V. D. Krishnaswamy, 'Megalithic Types of South India', *Ancient India*, No. 5 (1949), pp. 41–43.

2. Information from Prof. G. R. Sharma and Prof. A. K. Narain.

(ii) Typologically,[1] they exhibit a wide range : peninsular region – cairn-circles in the vicinity of Nagpur; cairn-circles, cist circles, menhirs and 'alignments' in the northern Mysore and southern Deccan; dolmenoid cists, cairn-circles, urn-burials and barrows in the Chingleput District, cairn-circles and cists including the transcepted variety in the Pudukkottai region; dolmenoid-cists, urn burials, hood stones (kudai-kallus), multiple hood-stones, umbrella stones (*topikallus*), rock-cut underground caves with single or multiple chambers in Kerala; cists with passage in District Belgaum and Bijapur; and urn-burials in Tirunelveli District at the tip of the Peninsula; extra peninsular region cists and cist circles around Karachi, cists in the Leh Valley, menhirs in the neighbourhood of Srinagar, stone-circles around Mardan, stone-circles and cairns (?) nearabouts Jaipur, dolmens in the region of Almora, cairn, cairn-circles and cists enclosed by cairns in the Allahabad, Mirzapur and Varanasi Districts; north-east India-menhirs and their alignments, dolmens, stone-circles, cairns, and stone-seats in Assam, Chota Nagpur, Bastar, etc. This seemingly differential distribution is largely conditioned by the available rock-material in the particular region.

(iii) The diagnostic material traits of the associated culture in the peninsula include the liberal use of iron and a widely-familiar pottery known as the Black-and-red Ware. Besides, another equally characteristic ware, showing white or creamy-white curvilinear paintings under a russet coat is also associated with some of the megaliths. The use of bronze and gold for ornaments and for other less utile objects is also attested.

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1. For a standardized description of the individual type and glossary of megalithic terms, cf. Krishnaswami, *op. cit.* (1949), pp. 35-45 and Wheeler, *op. cit.* (1959), pp. 153-58. The old terms used by the various explorers are equated by the compiler.

(iv) The Chronological range of the peninsular megalithic culture was fixed at Brahmagiri between *circa* 200 B.C. and the middle of the first century A.D.[1] Whereas the *terminus ante quem* is almost securely fixed, the earlier time-bracket has in the light of current research proved to be largely schematic. Two C-14 determinations from Hallur, District Dharwar in Mysore, have indicated 955±100 and 1105±100 B.C.[2] for the overlapped deposits of the neolithic and megalithic cultures; (TF-573 and 570 respectively). This incidentally would provide an approximate date for the beginning of the Megalithic Culture in the Peninsula. The other C-14 dates for the Megalithic Culture of this region fall within the above time-bracket. Outside the Peninsula only one C-14 date is of relevance, viz. from Kotia in District Allahabad; at 250±105 B.C. But decidedly more objective dates are needed.

(v) Excepting Maski,[3] Yeleswaram,[4] Nagarjunakonda[5] and perhaps also Chandravalli[6] and Perumbair[7] where articulated skeletons were recorded, the burials, as a rule, represent bones collected after excarnation. Instances of bones of

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1. R.E.M. Wheeler, ' Brahmagiri and Chandravalli 1947: Megalithic and other Cultures in Mysore State', *Ancient India*, no. 4 (July 1947-Jan. 1948) p. 202; also Wheeler, *op. cit* (1959), p. 163.

2. D. P. Agrawal, and Sheela Kusumgar, ' Radio Carbon dates of samples from southern neolithic sites, *Current Science*, no. 23 (December 5, 1966).

3. B. K. Thapar, 'Maski, 1954: a chalcolithic site of the southern Deccan', *Ancient India*, no. 13 (1957), pp. 27–30 and 32–33.

4. Abdul Waheed Khan, '*A monograph on Yeleswaram excavations*, Andhra Pradesh Archaeological Series XIV (Hyderabad, 1963), pp. 7–8, pl. VII.

5. *Indian Archaeology 1959–60 A Review*, pp. 6-9.

6. *Suppl. An. Rep. Mysore Arch. Dept. for the year 1929* (Bangalore, 1931), pp. 16 and 21.

7. *An. Rep. Arch. Sury. Ind.*, 1908–09 (Calcutta, 1912), p. 93.

several individuals bundled together as a single parcel in the same grave are not infrequent It is arguable therefore that some of the tombs could as well be family vaults used as collective sepulchres Of the two skulls examined from the burial-urns at Adichchanallur by Zuckerman[1] one was found to be unmistakably Australoid having similarities with the Dravidian cranial features while the other was Dravidian. Contrary to this, the skeletal material from Brahmagiri and Yeleswaram examined respectively by Sarkar[2] and Pabitra Gupta and Pratap Chandra Dutta.[3] indicates, besides an autochthonous Australoid type, a brachy-mesocephalic people similar to the Scytho-Iranian stock as encountered at the Necropolis B-Sialk VI.

(vi) The megalithic builders have been recognized as the primary speakers of Dravidian Languages,[4] and, as an extravagant guess 'the map of the Dravidian Languages with their north-western outlier (Brahui)' has been compared with 'the distribution of megalithic cists with their little known but sufficiently definite north-western groups'[5]

(vii) The presence of the skull of a horse[6] among the skeletal remains and horse-bits and stirrups among the miscellany

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1. S. Zuckerman, 'The Adichanallur Skulls', *Bull. of the Madras Govt. Museum* (NS), Vol. II, pt. 1, pp. 1–24; also S. S. Sarkar, *The Aboriginal races of India* (Calcutta, 1954), p. 30.

2. S. S. Sarkar, 'Human skeletal remains from Brahmagiri', *Bulletin of the Department of Anthropology*, Vol. IX, No. 1 (Calcutta, 1960), pp. 5–25.

3. P. C. Gupta and Pratap Chandra Dutta, 'Human remains excavated from megaliths at Yelleswaram (Andhra Pradesh)', *Man in India*, vol. 42, no. 1 (Jan. March 1962), pp. 19–34.

4. C. von Furer-Heimendorf, 'New aspects of the Dravidian problem', *Tamil Culture*, vol. II (1953), pp. 127–135; B. Subbarao, 'Megalithic problem of South India and the Dravidian Languages', *Trans. of the Archaeological Society of South India*, Silver Jubilee volume (1962), pp. 132–151.

5. Wheeler, *op. cit.* (1959), p. 169.

6. *Indian Archaeology 1961–62 – A Review*, p. 33.

of iron objects[1] deposited in some of the megalithic tombs in the Peninsula would suggest that the builders of these monuments were equestrians

(viii) Many of the tombs share common structural elements notably the port-holed chamber, with their counterparts in other parts of the world. Noteworthy mention may, however, be made of the two tombs with undeniable port-holed slabs in Necropolis B (Sialk VI) at Sialk.[2] There are, however, marked divergencies in chronology and cultural milieu between the monuments of the various countries. The megalithic tombs of the Indian Peninsula by their lavish iron equipment appropriate to the Iron Age, while those of Europe are assigned to the Stone Age (Neolithic). Whereas the latter fall in the chronological range from third to first half of the second millennium B. C., the initial date of the former, on the contrary, can hardly be put much earlier than eight–ninth century B C., the current date being only third century B.C.[3] In this connection, the evidence from the Necropolis B, Sialk VI (*circa* 1000-800 B.C.), where the use of iron is also attested, is very tantalizing indeed. Does Sialk VI afford a link with the West? How did the landborne impulses from Iran reach India and with what components remain elusive at the present moment No facile explanation suffices at the present stage of research. In a recent analysis the cairn-burials of Baluchistan have been suggested to provide the necessary link as also the inspiration for the megalithic concept.[4] This postulate, for being accepted as final, needs more circumspective examination.

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1. K. S. Ramachandran, 'Birdle bits from Indian megaliths', *Quarterly Journal of the Mythic Society*, vol. LI, No. 4 (1961), pp. 170–72.

2. V. Gordon Childe, 'Megaliths', *Ancient India*, No. 4 (July 1947 – Jan. 1948), p. 10.

3. Wheeler, *op. cit.* (1959), 163.

4. N. R. Banerjee, 'The chronology of the megaliths of South India', *Proceedings of the First International Conference on Asian Archaeology* (under publication).

Among the culture traits, the main problems are focussed on the black-and-red ware and iron.

The black-and-red ware has, during the past decade, assumed a wider meaning than hitherto ascribed. The basic technique of this ware, *viz.*, the inverted firing producing the characteristic black-and red effect is a widespread ceramic trait. It is known in ancient Egypt, first in the fourth millennium B.C. in the pre-Dynastic Tâsian, Badarian and Nagada Periods,[1] and later, as revealed by recent excavations near Tumas in Nubia, in the second millennium B. C. in the cemeteries of the C-Group people.[2] A suggestive but as yet inconclusive evidence points to an early relationship between Egypt and India. In India. again, the black-and red were has been found to occur in Harappan contexts in Kathiawar and in later chalcolithic assemblages in western and central India, including the intriguing white-painted Ahar Ware, as also in the pre-Northern Black Polished Ware horizons in the Ganga-Yamuna plains and in Orissa. The ware has also been reported from the megalithic tombs recently excavated in Districts Allahabad, Mirzapur and Varanasi. Otherwise, it has remained a complacent cultural label - Iron Age Pottery[3] - normally associated with the peninsular megalithic burials. With the gradual elaboration and complication of the archaeological record the precise import and application of this ware needs closer investigation. Is the occurrence of this ware in different chronological horizons a manifestation

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1. V. Gordon Childe, *New Light on the Most Ancient East* (London, 1954), pp. 33–34, 43–44, and 58.

2. 'Nile Excavation', *Link*, July 29, 1962, p. 39; also B. B. Lal, 'The only Asian expedition in threatened Nubia: work by an Indian mission at Afyeh and Tumas', *The Illustrated London News*, April 20, 1963.

3. R. B. Foote, *Catalogue of the Prehistoric Antiquities* (Madras, 1901), pp. iii–xix.

purely of a technique without cultural implications or is it unitary and necessarily a continuum of a persistent culture-trait? It must, however, be admitted that the peninsular megalithic Black-and-red Ware (Fig. 17) showing maturity in technique and form suggests the intrusion of a perfected tradition Its antecedent stages and genetic relationship with the ware of similar fabric in pre-iron assemblages require to be carefully investigated.[1]

The plenteous iron equipment (Fig. 18) in the peninsular megalithic burials can be studied in the wide context of the introduction of iron in India. On the basis of literary evidence, a date around 1000 B.C. was once suggested for the introduction of iron smelting in India.[2] Contrary to this premise, came the assertion that iron was introduced into the north-western plains of the subcontinent by the Achemenid conquerors when extending their Empire into the region in the latter part of the sixth century B.C.[3] In the absence of any conclusive evidence for the discovery of the technique in India, the controversy over this important issue

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1. Also cf. B. K. Thapar, 'Prakash 1955: a chalcolithic site in the Tapti valley', *Ancient India*, Nos. 20 and 21 (1967), pp. 68–69.

2. H. H. Coghlan, *Notes on Prehistoric and Early Iron in the Old World* (Oxford, 1956), p. 67; R. J. Forbes, *Metallurgy in Antiquity* (Leiden, 1950), p. 436; also S. D. Singh, 'Iron in Ancient India', *Journal of the Economic and Social History of the Orient*, vol. V, pt. II (Leiden, July 1962), pp. 212–16; Lallanji Gopal, 'Antiquity of Iron in India', *Uttar Bharati*, vol. IX, No. 3, pp. 71–86 and *Journal of the Andhra Historical Society*, vol. XXVIII (1962–63), pts. 1 and 2, pp. 39–54; D. D. Kosambi, 'The beginning of the Iron Age in India', *Journal of the Economic and Social History of the Orient*, vol. VI, pt. III (Leiden, Dec. 1963), pp. 309–18.

3. Wheeler, *op. cit.* (1959), p. 24; 'Ancient India, the Civilization of a sub-continent' in the *Dawn of Civilization*, Ed. by Stuart Piggott (London, 1961), pp. 250–51; *Charsada, a Metropolis of the North-west Frontier* (London, 1962), pp. 33–34 and 43–44.

has so far engendered more heat than light. Recently, however, a radiocarbon determination from a level showing the lowest occurrence of iron at Atranjikhera, District Etah in Uttar Pradesh, gives a date of 1025±110 B.C. (TF-191).[1] Another recent C-14 determination from Chirand, District Saran in Bihar, for a deposit showing the earliest appearance of iron at the site, is dated to 765+100 B.C. (TF-336).[2] Although it would be worthwhile to await confirmation of this objective evidence from more sites, it may be conceded that the above range supports the date postulated above on literary evidence.[3] This obviously would have a significant bearing upon the date of the peninsular Megalithic Culture, for the knowledge of iron smelting by its inherent usefulness would have been rapid in its diffusion and application. This is not a place for discussiug the date of the Megalithic Culture in south India. Nevertheless, it may be anticipated that the trend of the above evidence would perhaps necessitate a revision of the lower-bracket on the earlier side.

B. K. Thapar

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1. D. P. Agrawal, S. Kusmgar, and R. P. Sara, 'Radiocarbon dates of Archaeological samples', *Current Science*, vol. 33, No. 9, May 5, 1964, p. 267.

2. D. P. Agarwal, Sheela Kusumgar and M. Unnikrishnan, 'Radiocarbon dates of samples from N. B. P. Ware and Pre N. B. P. Ware levels, *Current Science*. No. 35, No. 1 (January 1966), p. 3

3. Thapar, *op. cit.* (1967), pp. 23-24.

ABBREVIATIONS

AI	Ancient India, Bulletin of the Archaeological Survey of India.
ARADN	Annual Report of the Archaeological Department of H. E. H. the Nizam's Dominion.
ARAM	Annual Report of the Mysore Archaeological Department.
ARASI	Annual Report of the Archaeological Survey of India.
ARASM	Annual Report of the Archaeological Department, Southern Circle, Madras.
ARASMC	Annual Report of the Archaeological Survey of Madras and Coorg.
ARTC	Annual Report of the Archaeological Department Travancore-Cochin State.
BDA	Bulletin of the Department of Anthropology.
BDCRI	Bulletin of the Deccan College Research Institute.
CS	Current Science.
IA	Indian Archaeology—A Review.
IAC	Indo-Asian Culture.
Ind. Ant.	Indian Antiquary.
ISCA	Indian Science Congress Association.
JAI	Journal of the Anthropological Institute, London.
JAS	Journal of the Anthropological Society, Bombay.
JAS (Bom.)	Journal of the Asiatic Society, Bombay.
JASB	Journal of the Asiatic Society of Bengal.
JBORS	Journal of the Bihar and Orissa Research Society.
JBBRAS	Journal of the Bombay Branch of the Royal Asiatic Society.
JBU	Journal of the Bombay University.
JHAS	Journal of the Hyderabad Archaeological Society.
JHGS	Journal of the Hyderabad Geological Survey.
JIA	Journal of the Indian Anthropological Institute.
JMU	Journal of the Madras University.
JRAI	Journal of the Royal Anthropological Institute of Great Britain and Ireland.

JRAS	Journal of the Royal Asiatic Society of Great Britain and Ireland.
Kai edu	Kai edu, Kalaikatchi Kulu, Irandavatu Ulaga Tamil Karuttarangu Manadu, Sennai, 1968 (Handbook, Exhibition Committee, Second World Tamil Conference, Madras).
Man	Man, a monthly record of Anthropological Science.
MASI	Memoirs of the Archaeological Survey of India.
MI	Man in India.
MJLS	Madras Journal of Literature and Science.
PASB	Proceedings of the Asiatic Society of Bengal.
PISCA	Proceedings of the Indian Science Congress Association.
Puratattva	Puratattva, Bulletin of the Archaeological Society of India, Varanasi.
QJMS	Quarterly Journal of the Mythic Society, Bangalore.
RASI	(Cunningham's) Report of the Archaeological Survey of India.
RASI (NIS)	Report of the Archaeological Survey of India, New Imperial Series.
RASMP	Report on the Administration of the State Museum, Pudukkottai.
RBAST	Report of the British Association for Advancement of Science—Transactions.
RSMP	Report on the working of the State Museum, Pudukkottai.
Samskriti	Samskriti, Dr. Adityanath Jha Abhinandan Grantha, Delhi, 1949.
Seminar Papers	Seminar papers on the Problem of Megaliths in India, Memoirs of the Department of Ancient Indian History, Culture and Archaeology, No. 3, Banaras Hindu University, Varanasi, 1969.
TASSI	Transactions of the Archaeological Society of South India.
TC	Tamil Culture.
TLSB	Transactions of the Literary Society of Bombay.
TRIA	Transactions of the Royal Irish Academy.

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A BIBLIOGRAPHY ON INDIAN MEGALITHS

1. ACHAN, Anujan P.

   ARTC 1952-53

   The excavation of an umbrella monument *(Kodaikkallu)* at Cheramangad brought to light a jar burial (pl. XX, figs. 45-48) in which were found two small painted cups containing fragments of bone and bone dust.

2. AGRAWAL, D.P.

   IA 1967-68, p. 71.

   Details of Radiocarbon date of a sample of the megalithic period at Halingali, District Bijapur are as follows:
   T.F. 685 Magalithic deposits 2030 $\pm$ 100 (80 B.C.) Charcoal from locus HGL, Meg. III, depth 1.31—1.4 m. Filed no. HGL, Mg. III-24. NaOH pretreatment was also given.

3. AHMAD, Khawaja Muhammad.

   "Note on the Excavations and Survey of Prehistoric sites in the Raichur District, Hyderabad"[1] in *ARADN* 1935-36, pp. 28-31.

   Twenty-four sites have been listed, among which the megalithic tombs at Benkal are particularly interesting. For the construction of the dolmen six slabs, four for the sides and one each for the top and bottom were used. A circular or semi-circular hole was found in one of the side-slabs. While at Lingsgur and Mudgal stone-circles were found, at Maski a vast field of menhirs arranged in avenues was noticed.

4. AHMAD, Khawaja Muhammad.

   Preliminary excavations at prehistoric sites near Janampet.

   Janampet is situated on the right bank of the Godavari in the Warangal District. Three cromlechs were excavated at Polichetticherugudda a mile (1.6 km.) east of Janampet. While in two of the cromlechs were found iron objects including horse-bits and a gold ring, the third one did not yield anything. Inside one of the cromlechs were found two stone coffins.

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1. At present Raichur District froms part of the Mysore State

A cromlech with an outer diameter of thrity-five feet (10.7 m.) was also excavated at Dongatogu.

In the report has also been included the architectural details of the graves.

5. AIYAPPAN, A.

"Rock-cut cave tombs of Feroke, South Malabar" in *QJMS*, XXIII (1923 - 23), pp. 299 - 314.

Describes the excavations of two rock-cut tombs at Feroke, South Malabar, including the surface indications and the finds therein viz., urn, pottery and iron objects and skeletal remains. In one of the tombs an urn and a legged trough-like vessel, apprently a sarcophagus, was found. Graffiti marks noticed on pottery are also described. One of the vessels contained animal ash, greyish in colour. Besides citing the prevailing traditions regarding the caves, the author advances reasons to prove that the caves are megalithic in character.

6. AIYAPPAN, A.

"Primitive handmade pottery" in *Man* XXXIV (1934), Art. no. 197.

The author refers to a pottery ladle found by Longhurst underneath a sarcophagus in one of the cairns at Gajjalakonda (see below 168), Kurnool District. According to him this ladle has been shaped on the model of gourd-ladles. Such gourd-ladles are used by the *Savaras* of the Visakhapatnam hills. The author is of the opinion that early potters copied natural forms.

7. AIYAPPAN, A.

" Rudestone monuments of the Perumal Hills, Kodaikanal " in *QJMS* XXXI (1940 - 41), Krishnaraja Memorial Number, pp. 313 - 79.

Two stone-circles were excavated by the author, one in the saddle of 'Panchapandavamettu ' and the other in a paddy field known as ' Vellayan Pillai vayal '. Objects recovered from the graves consisted of pots, iron implements, etc. According to the author one of the channel-spouted jars from this site has parallels in Iran.

8. AIYAPPAN, A.

"The Megalithic culture of Southern India" in *ISCA* XXXII (1945), Presidential Address : Anthropology and Archaeology section.

The main points raised in the address are as under :

1. Megaliths have a world wide distribution.
2. Chronologically they may be dated to the neolithic times.

3. Anthropology can be of immense help in the determination of changes and assimilation of burial customs.

4. The monuments could be classed into main and sub-types; and the types are not necessarily confined within geographical areas.

5. Different types of monuments, even though belonging to the same period reflect cultural diversity.

6. Urn-burials are characteristic of southern districts of the Madras Province. In the Godavari and Krishna valleys cists are the predominant type and in the intermediary region sarcophagi are the main types.

7. In pottery types there is no affinity between Adichchanallur and Nilgiri graves but they do exhibit phylomorphic and zoomorphic affinities.

8. Balinese burial customs have parallels with the Indian sarcophagi burial.

9. Adichchanallur graves belong to the first century A.D. while those at Perumbair range between the sixth and the thirteenth centuries.

10. Megalithism is still being practised by certain Indian tribes.

11. The author concludes that since the megaliths continue till late times they could not have been a sudden exotic introduction.

9. AIYAPPAN, A. and RAMAKRISHNA REDDY, A.
"Wavy line decorated pottery in the collection of Government Museum, Madras" in *PISCA* 1945, pp. 53-54.

Funerary vessels, particularly the red wares, bear varied types of wavy line decoration in white pigment, the predominant pattern being parallel wavy lines. Though the decoration is generally on the exterior of the pots, there are also examples of pots bearing decoration on the inner side. The technique of decorating the pots has also been described.

10. ALLCHIN, F. R.
"The Stone Alignment of southern Hyderabad" in *Man*, LVI (1956), Art. no. 150.

The Alignments are found in north of the Krishna and Tungabhadra rivers in the Raichur, Atrafi-i-Balda, Nalgonda and Mahboobnagar districts of Hyderabad State.[1] These are accurately set in parallel rows and are oriented approximately on the cardinal points. The average height ranges between three and six feet (0.9—1.8m.) though there are examples of stone alignments having a height of 14 to 16 and 25 feet (4.2 to 4.9 and 7.6m). The alignments fall into two classes, the square and diagonal ones.

Variations in the alignments from the cardinal points was perhaps to the fact that the direction of sun rise was used to determine the cardinal points. These are found by the side the cist-burials and are perhaps, contemporary with them.

The alignments are quite different from the Assam and Cochin types. Their purpose is intriguing. These might have been cattle stones with magical powers to ward off disease, commemorative stones and caravan-halting places on the occasion of market days and fairs.

A gazetteer of sites is also appended.

11. ALLCHIN, F. R.

Piklihal Excavations, Andhra Pradesh Government Archaeological Series, No. 1 (Hyderabad, 1960).

In part I under the general heading 'Field Observation' (pp. 6 - 10) the author has dealt with the grave sites, stone alignments and stone enclosures at Piklihal.

The graves were found in three groups, the types being cairn - circles, and cists. In the first group was a double circle. One circle was being used as a shrine. In the second group an interesting monument was a cist made of granite blocks surrounded by a stone - circle. Adjoining the stone - circle on the south there was an oval entrance - court 31 x 21 feet (9 x 6 m.) constructed of two lines of smaller boulders. All these, the cist, the stone - circle and the entrance - court, had a southern entrance-opening. In the third group an apsidal enclosure measuring 57 x 70 feet (17.3 x 21.3 m.) was observed.

Three stone alignments of the square and diagonal varieties and four rectangular stone-enclosures were also noticed.

Discussing the Iron Age (pp. 136-37) Dr. Allchin observes, "Excavations at sites II, III, and IV showed the graves lying on the plain ground and the

1. Now part of the Andhra Pradesh.

settlement areas belong to this age. Similarly, stone alignments were erected alongside the graves, perhaps for some related ceremonies. Here in the Deccan they appear, as we have seen, upon sites already chosen for the slab lined pit graves of the intrusion (see p. 136), which were the first sign of introduction of new rites... the cists seem often to be rather family ossuaries in which bones of many persons were deposited."

12. ALLCHIN, Bridget and Raymond
The Birth of Indian Civilization (Hammondsworth, 1968).

Megalithic burials are dealt with under the heading 'Burial complex of south Indian Iron Age' (pp. 223-32).

The burials are found in the extreme south and coastal Ceylon throughout a major part of the Peninsula and as far as Khandesh and Nagpur. A few scattered burials are also reported from the hills south of the Ganga valley which seem to be outliers. The representative burial types are: (1) urn-burials with stone-circle or capstone or both; (2) legged urns, legged terracotta sarcophagi, etc.; (3) pit-circles; (4) cists; (5) rock-cut chambers in Malabar; and (6) stone alignments.

Inspite of the diversity of burial customs there are other factors which point towards a general uniformity. Black-and-red Ware is patently of the Iron Age levels in the habitation sites. Some of the pottery types seem to be used exclusively in the burials. Etched carnelian and other beads, gold ornaments, occasional objects of copper, bronze or stone are also found. Iron is the most universal metal. Identical tool-types in iron found in large number from places as far removed as Adichchanallur and Nagpur would testify to the diffusion of closely knit iron-workers. However, shaft-hole axe is absent in these graves. Horse furniture forms a special group. 'The south Indian graves appear as a developing complex with several streams of influence combining them'. The influences can be traced from Central Asia, Iran, Caucasus, perhaps carried by the Indo-European speaking immigrants; an indigenous trait developed from the neolithic-chalcolithic burials of the Deccan; influences from the Levant and the Coastal Arabia (cists), Mesopotamia and Persian Gulf (pottery sarcophagus), Yemen (legged urns); and influence from the same regions for rock-cut caves. These were due to the maritime contacts with the Middle East during the first millennium B.C. The stone alignments are of indigenous development. The two dates of Hallur, 1050 B.C. and 950 B.C. correspond with the introduction of iron in north India.

Some pottery shapes have analogues in Sialk Necropolis B. Horse-bits would suggest, partially, immigration of outsiders into India.

13. ANONYMOUS

"Megalithic sites and rock-cut caves, District Cannanore" in *IA 1961-62* p. 98.

Discovered cist-circles at Naduvil Amsom and rock-cut caves at Vallianoor Amsom.

14. ANONYMOUS

"Megalithic site, Kallar, District Kottayam" in *IA 1961-62* p. 98.

Cists and menhirs were found in Pattom colony in Kallar, in blocks 106 and 500.

15. ANGLADE, Rev. A and Rev. L. A. NEWTON

The Dolmens of the Palni Hills, MASI, no. 34 (1928), pp. 1-28.

The topographical distribution, description of the monuments, mode and purpose of construction are given. The dolmens are found in groups and are usually surrounded by a rectangular dry walling. Square and semi-circular bounding enclosures are rare. There is no fixed orientation for the chambers. In circular ones they (dolmens) seem to radiate from a fixed point. Discussing the purpose of the dolmens the authors conclude that the walled ones were probably used as grain stores; the circular or elliptical rows of stones similar to those found at Perumalmalai were ordinary dwelling places and the buried dolmens were graves.

16. AYYAR, Venkatarama K. R.

A Manual of the Pudukkottai State, Vol. II, part ii (Pudukottai), pp. 996-1416.

A useful gazetteer of megalithic and other remains in the erstwhile Pudukkottai State, now merged with Tiruchchirapalli District, Tamilnadu.

17. BABINGTON, J.

"Description of the Pandoo Coolies in Malabar" in *TLSB* III (1823), pp. 324-30.

Describes the Kodaikallus, Topikals and caves of Malabar. The few monuments excavated by him are described step by step. The author says that when the loose soil is of considerable depth *chattis* (urns) were the depository for bones while the caves were excavated where bare rock was encountered.

Excavation of the Topikals revealed that they contained nothing. Beneath Kodaikallus, urns, bones, arrow-heads, iron implements, beads or different shapes, colours and materials were found. *Trisulam* or trident indicated Hindu origin. Some of the pots were painted, the designs being connected chevrons, parallel wavy lines and spiral motifs.

Babington gives the architectural details of the caves and states that their contents resembled those from the Kodaikallus.

18. BAIN, D. S. E.

"Antiquities of South India" in *JAS*, II (1921), pp. 229 - 31.

A cromlech near Mysore was excavated and the results are embodied in this paper. Inside the tombs were the usual burial furnishings; pots, iron implements, gold objects and bones. The gold ornaments consisted of a ring made of very thin piece of gold 2 5/8 inch (6.6 cm.) long and 1/8 inch (0.03 cm.) wide with holes at either end, and a piece of gold, half-inch (1.2 cm.) square with holes in two sides and a curved copper bangle. In some of the iron arrow-heads and spear-heads remnants of wood were available. The age of the buried, according to the author was between thirty and thirty-five and the bones did not indicate a pygmy race.

19. BALL, V.

"Stone monuments in the District Singhbhum, Chota Nagpur" in *Ind. Ant.*, I (1872), pp. 291-92.

Ancient and modern dolmens exist in whole of Chota Nagpur disproving the view of Fergusson (see below 100) that they do not exist in the valley of the Ganga or any of its tributaries. The Hos, a sect of the Mundas, erect menhirs in memory of their dead. Two sites, one at Pokaria, a few miles south of Chaibassa station and the other a few miles south-west of the former are mentioned.

20. BANERJEE, N.R.

"Amirthamangalam, District Chingleput" in *IA 1954-55*, pp. 20-21.

Excavation at Amirthamangalam, an urn-burial site without any megalithic appendage revealed that the urns were lowered into a pit cut into the laterite bed-rock. Skeletal remains consisted of uncalcined, disarti culated and excarnated bones comprising parts of skulls, long bones, tooth, etc. Over the skeletal remains were placed a few pots. These burials seem to be simpler as compared with other type of megalithic burials.

21. BANERJEE, N.R.

"The Megalithic problem of Chingleput in the light of recent exploration" in *AI*, no. 12 (1956), pp. 21 - 34.

The megalithic builders did not bury their dead in arable land. Megaliths are found in association with irrigation tanks forcing the conclusion that the megalithic folk were responsible for the excellent tank-irrigation system. Theirs was a settled community life, perhaps the result of mutual contact, trade, etc., with others or perhaps due to the ethnic and cultural homogeneity of megalith-practicing people. They knew smelting and forging of iron for their implements and weapons. They also believed in life after death.

The burials are secondary and post-excarnated.

Megaliths are likened to *stupa*. The author disagrees with the view of Wheeler (see below 342) that the pit-circles served the purpose of macerating pits.

A brief summary of results of excavations of the megaliths, with particular reference to the mode of construction is given.

Discussing the chronology, the author postulates an earlier date on the basis of a nine feet (2. 74m.) thick Black-and-red Ware deposit below the Rouletted Ware levels at Sengamedu, a habitation site near Vriddachalam.

Arguments advanced by Haimendorf (See below 112) in favour of an early date for the south Indian megaliths (*i.e.*, Megalith builders were Dravidian immigrants forcing their langauge on an already existing population and that the immigration took place sometime between 700-400 B.C.) are recounted. The date 300 B.C. would tentatively apply to only a few explored sites.

22. BANERJEE, N.R.

" The Chronology of Megaliths in South India-A Review " in *International Conference on Asian Archaeology - Summaries of papers* (New Delhi, 1961), pp. 26-28.

The impact of the neolithic and the chalcolithic periods (1500-800 B.C.) as noticed at Brahmagiri would affect the chronology of the megaliths in south India. The author links up the cairn-burials in Persian and Baluch Makran with the south Indian megalithic burials; the connecting link being the dolmens in the neighbourhood of Karachi. He is of the opinion that the Dravidian speakers were indigenous people

inhabiting the whole of the Indo-Pakistan subcontinent, who were gradually pushed towards the south by the Aryans. The movement was not violent. During this southward movement due to their cultural connexions with the chalcolithic people they evolved certain traits of their own and these became characteristic culture of the south. This might have happened between 700 and 300 B. C.

23. BANERJEE, N. R.

"Megalithic builders of South India were Dravidian speakers – A Review" in *TASSI*, Silver Jubilee volume (1960-62), pp. 180-89.

The paper deals with the problem touching the following three aspects.

(i) the theory of Haimendorf *vis-a-vis* that of Burrow;

(ii) the *Sangam* literature; and

(iii) the Dravidian speakers as autochthonous of south India.

As opposed to Haimendorf's postulation (see below no. 112) Burrow is of the opinion that the Dravidian speakers originally inhabiting the north-western portion of the Indo–Pakistan subcontinent were pushed back towards the south in due course. Burrow's theory is based mainly on linguistic evidence and literary sources and he assigns the period between C. 1500 to 1200 B.C. for the linguistic contact. According to Burrow only the north Dravidian language influenced Sanskrit and this might have taken place during the Maurya or a little earlier during the period of the Nandas.

(ii) Discussing the evidence from the *Sangam* literature (C. 300 B.C., A. D. 300) the author claims a date earlier than 300 B. C. for the Dravidian speakers. He is of the opinion that the Brauhi speakers were stragglers along the border during the southern movement of the Dravidian speakers.

(iii) The main points for discounting the autochthonous theory are the following:

(a) There is lack of evidence for the simultaneous development of megalithism and iron in south India, as seen from the absence of rudimentary pioneering steps.

(b) The Megalithic folk were intruders among the primitive folk of the Deccan. This would suggest a fresh impetus into the south. Though the Aryans could have been the moving force it is not possible to link them with the death-cult, as megalithism had no place in their ritual.

(c) The linguistic contribution of the Dravidian to the oldest *Rig Vedic* language of the Aryans could not have taken place in the south.

Concluding, the author says that the Dravidian speakers inhabiting the north-western part of India during or before the *Rig Vedic* times were pushed towards the south in due course, where they introduced megalithism and the attendant cultural traits, some of which they picked up *en-route*.

24. BANERJEE, N. R.

The Iron Age in India (Delhi, 1965) with plates and figures.

This is a study of the beginning of Iron Age in India and its subsequent development. The third chapter which deals with the 'Chronology and the sources of different cultural landmarks associated with iron in their bearing on the evolution of iron in India' is of particular interest in our context.

According to Banerjee the Aryans learnt the use of iron from Sialk VI people in Iran even as the Aryans of the Ganga plains did. Later this metal came into its own in Central India and in the megaliths of south India. The megalithic folk received influence from the Ganga plains in thier knowledge of iron. It is also quite possible that there was a direct cultural impact of Sialk VI on the south Indian megaliths via the cairn burials of north-west India.

25. BANERJEE, N. R. and K. V. SOUNDARA RAJAN,

"Sanur 1950 & 52: A Megalithic Site in District Chingleput" in *AI*, no. 15 (New Delhi, 1959), pp. 4-42.

This illustrated report deals with the excavation of five megaliths (megs. 1 to 5). The authors say that the monuments were on the waste-lands which were not suitable for cultivation and close to irrigation tanks. On the basis of surface indications these were classified into cairn-circles (megs. 4 and 5), dolmenoid-cist (D_2—meg. 3) and dolmenoid-cist with capstone flush with cairn (D_3—megs. 1 and 2). However the excavation revealed that meg. 5 was a pit-circle, and meg. 4 contained a legged sarcophagus with an incipient dolmenoid-cist chamber. Thus the surface indications did not provide tangible clues for the classification of the megaliths.

The several stages in the construction of these burials have been enumerated.

The graves contained the usual furnishings viz., pottery consisting of the Black-and-red, all black and red wares; iron objects, mostly weapons of war; beads of carnelian–both etched and plain-terracotta and shell; ear ornaments of shell with incised decorations and skeletal remains. Bones were not found in some megaliths. However, structural similarities and interment would point to their sepulchral character. Special mention may be made of iron currency bars and horse-bits.

The effort involved in the construction of these huge burial monuments point to comunity living.

Discussing the chronology, the authors have arrived at a date slightly earlier than Brahmagiri (200 B.C. - A.D. 50) and a little later than Sulur (300 B.C.).

The report also includes individual description of the burials, pottery types, graffiti marks and small finds such as iron, shell, stone objects, beads, terracotta figurines, etc. Besides, there is also added a preliminary report on the skeletal remains.

26. BECK, Horace C.

"Notes on Sunday Asiatic Beads" in *Man*, XXX (1930), Art. No. 134.

The article is divided into five sections, of which the first three, (i) Beads from Megalithic Tombs and other Sources in Hyderabad, (ii) Beads from Megalithic Tombs and Midden in Sulur Taluk and neighbouring Districts, and (iii) Beads from Urn Burials in the Wyanaad, Malabar Coast, pertain to beads from Indian-megaliths.

The first section deals with the beads obtained from Raigir and Maula Ali, both megalithic sites in Hyderabad, Andhra Pradesh. Of the one hundred and eight beads from the graves at Raigir forty-nine are not circular and in this respect they are like the Mesopotamian ones. Material–wise frequency chart shows that the maximum utilized material for the beads was lapis lazuli; the frequency being seventy–three.

The cylindrical lapis lazuli beads exhibited similarity in material, shape, type and execution to some of the beads from Ur dateble to C. 300 B.C. Other shapes of beads, parallels from outside with their chronology are also mentioned.

From Maula Ali gold annular beads, their process of manufacture and analysis are given.

In the second section a detailed description of the cist and the two benches inside it at Sulur is incorporated. Sulur graves gave the maxi-

mum number, one hundred and twenty-eight beads of wich forty were of red steatite. These were found in a pot in a grave. Here also material-wise analysis is given.

The most important find from a cist-grave at Sulur was a corroded bronze coin identified by Allen as 'Eran struck' coin assignable to the third-second centuries B.C.

Beads from Wyanaad urn-burials form the smallest group numbering forty-eight of which thirty-seven was from one urn-burial at Sultan's Battery. These beads occupy an intermediate position between Raigir and Sulur.

27. BIDIE

"Prehistoric graves near Pallavaram" in *JRAS* (NS), XXX (1887), pp. 693-95.

These are known as *Pandukuris*, *Pandukulis*, *Pandavarkoil*, etc. The sepulchral chamber resembled a dwelling. The contents of the burials also point towards this, since the things used during his lifetime were interred with the dead. The author feels that the tumulus is the prototype of the Buddhist *stupa* or *dibba*. The sarcophagi with rows of legs, when looked sideways recalled a caterpillar. The contents inside the chamber indicated the concept of life after death, an idea which persists even in modern times. The difference in the south Indian tombs and those elsewhere have been given.

28. BLAKISTON, J. F. (ed.)

"Departmental routine notes" in *ARASI* 1924-25, pp. 172.

Mentions the existence of a group of cromlechs at Chamursi[1] in the former Central Provinces and Berar.

29. BLANDFORD, W. T.

"Exhibition of a collection of pottery found by Major Mockler in Makaran" in *PASB* 1877, pp. 157-58.

Major Mockler opened a few cairns of long type 50 feet (15.2 m) long but never 5 feet (1.5 m.) broad. In these were found, for the first time pots which had been exposed to the action of fire. In one of the cairns in the Kohistan hills near Sooraga, a silver bracelet soldered by lead and copper arrow-heads were found.

The objects were presented to the Indian Museum, Calcutta.

1. Now in District Chanda, Maharashtra.

30. BOSWELL, J. A.

"On the ancient remains in the Krishna District: Scythic Remains of sepulchure" in *Ind. Ant.* I (1872), pp. 150-51.

Sepulchral tumuli and stone-circles are found in parts of Palnad. Those in the neighbourhood of Karunpudi (Karempudi) resemble Coimbatore and Nilgiris monuments. Structural details of Kistvaens, some having holes on one of the side slabs communicating with the adjacent chamber is given. Some cists were divided into four chambers by cross-slabs. The contents inside were bones (in some instances calcined) and the megalithic wares. Iron implements were, however, not noticed. The skeletal remains indicated that the ethnic element was not different from the present day people.

Similar remains are also seen near Amaravati.

31. BRANFILL, B. R.

"Rude Megalithic monuments in North Arcot" in *JASB* (1880), pp. 8-10.

A megalithic burial monument at Iralabanda Bapanattam in the Palmaner Taluk of North Arcot District is described in detail. This had a triple ring cf circle-stones of dressed slabs with semicircular and rectangular heads, arranged alternatively. The diameter of the outer two bounding circles were 30 feet (9.1 m.) and 22 feet (6.7 m.) while the innermost was almost a square measuring 12 x 16 feet (3.66 x 4.9 m). The circle stones also had holes pierced through them in the same alignment with the port hole in the eastern orthostat. There was also antechamber and an inner enclosinq wall with a door slab. The furnishing inside contained the usual goods. Iron weapons were scarse. Interesting is the discovery of three Tamil letters (*sic.*) scratched on a fragment of a small bowl.

32. BRANFILL, B. R.

"On the Savandurga Rude Stone cemetery, Central Maisur" in *Ind. Ant.* X (1881), pp. 1-12.

The author who excavated a few megaliths (Kistvaens) gives a vivid description of the burials and their contents. The usual megalithic furnishings viz., iron implements, pots and bowls were found. Remarkable in the pottery are the ladle-shaped gourd-like vessels and three legged jars. Some of the pottery bore post-firing graffiti marks; commonest marks being those resembling 'M' and 'U'. He feels that the kistvaens are perhaps a copy of the dwellings of the people who built them.

A descriptive list of pottery and iron objects is also given.

The article is well illustrated with plan, elevation and section of monuments besides figures of pottery shapes and iron implements.

33. BRANFILL, B. R.

"Old slab stone monuments in Madras and Maisur" in *Ind. Ant.*, X (1818), pp. 97-100.

An account of the megalithic monuments at Iralabanda Bapanattam in the Palmaner Taluk of North Arcot District, Madras and Aneguttahalli, four miles (6.4 km.) from Teykal or Tekkal on the Madras Bangalore Railway is given.

The one at Iralabanda Bapanattam is a dolmen with port-hole and bounded by a double circle, in the construction of which only slabs, sometimes with rounded tops are used. The whole is covered up with cairn filling. The chamber contained legged terracotta sarcophagi, bones and pots with usual graffiti marks. Iron was scarce. Interesting is the reference to the scratching of '*Azil*' in Tamil *(sic)* characters.

The Aneguttahalli megaliths are similar to those at Iralabanda Bapanattam but without the bounding circle. One of these contained human remains, pottery and two sarcophagi. Iron was again scarce. Similar tombs are found at Govindareddipalle, near Gujalapalle, 12 miles (19.3 km.) north-west of Chittoor, North Arcot, Devanur, Kollur near Tirukkovilur and in the hills of Mysore, Salem and Norih Arcot Districts.

34. BREEKS, J. W.

An account of the Primitive tribes and monuments of the Nilgiris (London, 1837).

A chapter is devoted for the megaliths.

Cairns, Barrows, Kistvaens, cromlechs and Toda *Azarams* are defined. The author excavated several monuments in the Nilgiri plateau and has incorporated in this book a detailed account of his excavations.

Cairns are of different types; the main ones being the 'draw-well' type and the circle enclosed by a heap of loose stones, sometimes built carefully. The interment beneath the stone-slabs found near the centre and oriented north-south or north-east-south west concealed cinerary urns containing burnt bones, pots and lids with animal and human figures on top; buffalo being the most frequently represented animal, bronze bowls which were sometimes found in an inverted position; and iron implements like razors, spear-heads etc. A bronze bowl and an iron razor had traces

of cloth wound over them. There was no order of arrangement inside the grave.

The barrows, in the majority of cases, were circumscribed by a ring of stone-circles, although, in some cases they were absent. Special mention of a triple barrow at Nedubetta can be made. Inside the barrows the interment was similar to that found inside the cairns. The bronze found here contained high percentage of tin (29.89 %).

The human figures found here seldom resembled the Todas. The tribes here throw little light on the antiquity of the monuments.

Stone-circles might have been old funeral *mands* and *kraals.*

Most of the cromlechs are sculptured; the sculptures recalling those on the *viragals* or the *mastikals.* Fergusson feels that these are rifled tombs but the author doubts their sepulchral character. These might be memorials. The Badagas and Kotas near Tenad claim them to be the work of their ancestors.

Kistvaens were found only near Fort Udiraya. Kistvaens comprise slab-cist in the centre surrounded by a bounding circle. Usually the eastern slab has a port-hole. All the kistvaens were disturbed but digging in the enclosed area brought to light fragments of pottery and an iron dagger.

These are severally known as *moraiaru mane, pandukuli, vedar kudi, kurumbar kudi,* etc.

Several sketches and plans illustrate the chapter.

35. BURGESS, Jas.

"Report on the first seasons's operation in the Belgam and Kaladgi Districts", *RASI (NIS),* No. I (1874), p. 8.

To the south east of Konur remains of dolmens in groups–all surrounded by loose stones–were found, which, in the excavations, yielded ash, bone and pottery.

(All are passage-grave type with flanging stones outside and adjacent to the eastern slab. Ed.)

36. BURGESS, Jas.

"The Dolmens at Konur and Aihole" in *Ind. Ant.* III (1874), pp. 306–308.

The author opines that an accurate knowledge of the geographical distribution, character and differences of each group of rude stone monuments (burials) is essential for a proper study of their origin and other cognate matters.

Several groups of graves at Konur (near Gokak, District Belgaum) are described.

Similiar monuments at Aihole, District Dharwar are compared with those at Konur. Excavation of a dolmen at Konur yielded bones, earthen ware vessels and ash of charcoal.

37. BURGESS, Jas.

"Remarkable Antiquarian Discovery in southern India" in *JRAS* (1901), pp. 925–29.

A vivid description, of the excavations by Rea at Adichchanallur, Tinnevelly (Tirunelveli) District together with a statistical analysis of iron objects found inside the urn-burials is given.

38. CALDWELL, R.

" Explorations at Korkei and Kayal " in *Ind. Ant.* VI (1887), pp. 81–83.

The author excavated at Korkei and found among other things a few sepulchral urns. These were eleven feet (3.35) in circumference and contained a complete set of human bones including a perfect skull.

At Kayal also similiar urns were found. A couple of urns were also found at Maramangalam.

39. CALDWELL, R.

"Sepulchral urns in Southern India" in *Ind. Ant.*, VI (1887), pp. 279–80.

The author recounts the discovery of urns at Korkei and Ilanji giving a full account of their contents viz., pots, bones, etc.

According to Dr. Hunter of the Madras School of Arts, the pots were polished but not glazed.

That these urns were *samana (Jaina)* vestiges was the prevalent notion. The popular belief that when old people were diminuted by age they were put into urns with food and provision and buried alive is also mentioned. The author gives the derivation of *madamakkattali*, a term by which these urns are known in Tamil. The people buried were not pygmies. They were comparatively civilized. The urns are found in the Tinnevelly (Tiru-

nelveli) and Madura (Madurai) Districts and southern parts of Travancore i. e., on the both sides of the southern ghats.

40. CAMMIADE, L. A.

"Urn burials in the Wyanaad, Southern India" in *Man*. XXX (1930), Art. No. 135.

The following urn–burial sites have been listed :

(i) Sultan's Battery site on the rounded top of a low hill overlooking the Calicut–Mysore main road, where, on the site itself the police station and the traveller's bungalow have been subsequently constructed.

(ii) Between the milestone 10/7 and 11/0 (approximately 17 km.) on the Kaniyambetta-Minangadi road are seen some urns both on the road and in the drain

(iii) Between the milestones 12/0 and 11/7 on the Manantoddy-Vayatiri road, one mile (approx. 1.5 km.) north of Kaniyambetta travellers' bungalow and two miles (3 km.) south of the Panamaram river is a site covering an area of two acres (0.8 hectares).

(iv) Kandatham Vayil, eleven miles and two furlongs (18.1 km.) from Manantoddy on the road to Keroth, where some urns were found.

(v) Similarly some urns were found on the road from Calicut to Vayatiri below Puthupadi hotel two miles (3 km.) from the ghat and twenty-five miles and two furlongs (40.6 km.) from Calicut.

The general distribution of the sites, location, types of urns, pottery objects, beads etc., found therein is also given. A comparison of the urns and their contents with those from Tirunelveli is made in respect of the first mentioned site.

41. CAMMIADE, L.A.

" Tangal, Chingleput District, Madras " in *Man*, XXX (1930), Art. no. 136.

The ancient site of Tangal is situated on the sea shore, six miles (10 km.) north of Fort St. George and one mile (1.6 km.) east of Tiruvorriyur. Relics from here are as follows ;

(i) Polished red, Black-and-red and black wares associated with burials, finely fired thin ware of yellow-pink tones;

(iii) terracotta nose and ear ornaments;

(iv) fish hooks of iron; and

(v) bangle of semi-opaque glass.

Numerous coins, oblonq in shape, mostly plain but a few punch-marked ones were also found. Among the coins two (bronze) have been identified as of Roman times. The rest were the Pallava types. However, no Chola coins were found. The site is datable to *C.* eighth century A.D. It appears that the site was abandoned at an early date.

42. CAMMIADE, L.A.

"Observations upon Ancient sites in the neighbourhood of Kalugumalai' in *Man*, XXX (1930), Art. no 137.

1. A detailed account of excavations of urns, the size and contents of the urns including an iron chisel found therin at a site in Kalugumalai in the former Ettiyapuram Zamin, Tirunelveli District is given.

2. At Vasudevanallur in Sankaranayinarkoil several urns were excavated and were similar to Kalugumalai burials. An interesting feature was an urn containing complete body in a squatting position. No other object except one small iron chisel was found in this.

3. At Karivalamvandanallur the finds were; a big urn-burial and relics of some earlier habitation; beads of carnelian, spherical bead of wood covered with gold plate, green glass beads, bangles of chank shells, semi-translucent black glass; thick *eau-de-nil* glass; opaque yellow glass fused with light yellow glass; terracotta beads and nose and ear ornaments. Besides, copper coins assignable to Chola times were also found.

In Tirunelveli District occasional stone-circles mark the burials but it is not the general feature.

43. CAREY, J.J.

PASB 1871, pp. 238-39.

In the village of Khaiwarra, sixteen miles (25.7 km.) east of Arvi, District Wardha, the author excavated a couple of stone-circles wherein he found broken bits of pottery and bones and back teeth of a horse. Besides, two copper bells, ear rings, an iron axe, a kind of saucer with a handle with a hook and a spiral ring were also recovered.

44. CARLLEYLE, A. C. L.

"Report of year 1871-72: Agra" in *RASI*, IV (1874), pp. 214.

A number of cairns on the heights near Jagner were observed. The legends connected with them are also recounted.

45. CARLLEYLE, A. C. L.

"A tour in Eastern Rajputana in 1871-72 and 1872-73", *RASI*, VI (1878), pp. 13-15, 33-39, 88-89 and 104-108.

At Khera, four miles (6.4 km.) west of Fatehpur Sikri, cairns – 'round shaped and flat topped' were noticed.

In the round cairns at the bottom in an oblong cavity, sometimes excavated in the rock surface, a layer of pale coloured earth or sometimes a fine yellowish sand, foreign to the place was found. Below this, calcined bone-ash mixed with earth and pieces of charred wood were found.

The flat-topped cairns were hollow chambers of stone and at the bottom of which were found greyish, possibly bone-ash and charred wood.

At Satmas, two miles (3 km.) from Jagner numerous 'conical' and 'flat topped' cairns concealed the graves excavated in the bed-rock. The flat topped ones were built-up chambers above the ground. Cromlechs are rectangular chambers of rubble stones and covered on top with slabs and sometimes with small stones. The grave chamber in all these was of the size to bury a corpse with its legs bent up. Enough evidence was found to prove its sepulchral character.

At Machari a few tombs of slabs of stones and boulders containing bone-ash, stone ball and rude flakes of stone were observed.

At Deosa, thirty-two miles (51.5 km.) east of Jaipur stone-circles were found. In one, a huge pillar-like stone which must have stood erect in the centre was found fallen. In another, a cromlech, six feet (1.8 m.) square and four feet (1.2 m.) high was observed.

It has been shown by the author that the diameter of the circle, the number of circle-stones and the circumference are interrelated. Perhaps this had some magical significance or connected with the sun, the night and the day.

A mound nearby revealed funerary remains.

46. CHANDRASEKHARAN, K.

"Megalithic site, District Cannanore" and "Rock-cut caves, District Cannanore and Kozhikode" in *IA 1960-61*, p. 58.

At Cherunthazam an umbrella stone was noticed.

Rock-cut caves at Pattanur-Pazhassi, Koleri, Payam, Kannavaram, Kolavallur, Panniyannur, Kuttur, Eruvassi, Kanjirode and Cherode were discovered. The last two sites are in District Kozhikode while the rest fall within the limits of District Cannanore.

47. CHANDRASEKHARAN, K.

' Exploration in District Quilon and Trivandrum " in *IA 1961-62*, pp. 21.

Cairn-circles and cists at Kodumon and Poothankara and urn-burials at Angadickal were found.

48. CHANDRASEKHARAN, K.

"Exploration in District Tiruchur" in *IA 1967-68*, p. 23.

Urn-burials at Nattika, Edakulattur, Eranallur and Kanjirode; menhirs at Venkitangu and Alur; umbrella stones (*kudai kals*) at Vellattanjur and rock-cut caves at Mullassery were discovered.

49. CHILDE, Gordon V.

"Megaliths" in *AI*, No. 4 (New Delhi, 1948), pp. 5-13.

In this paper the characteristics of megalithic burials are Discussed. Port-hole is a highly specialised feature for generalized megalithic culture. If the Indian megaliths had their origin in the west, then the contact must have been through the sea. Differences in chronology, grave contents, etc., between the Indian and the western megaliths are clearly brought out. Stone-circles served to retain the cairn filling or the earth tumulus over the graves.

50. COCKBURN, J.

" On Flint implements from Kon ravines in South Mirzapur " in *JASB*. LXII pt. 3 (1894), p. 21.

The ravines have cut through several 'Neolithic' burials revealing their contents *viz.*, human remains glazed earthen ware cups, stone hammers and flakes.

Those barrows excavated at Barkacha contained fossilized skeleton of an adult human male, oriented north-south and some pottery. A narrow lachrymal vase of green glass was also found. The built-up cairn cave

had been rifled. Such graves are also found at Muzzafarpore.

51. CODRINGTON, K. de B.

"Ancient Indian Hand Mirrors", in *Man*, XXIX (1929), Art. no. 130.

The author identifies five circular bronze plaques with projecting tangs or central bosses from Adichchanallur, Tirunelveli District, as hand mirrors on the analogy of similar circular representations on sculptures from Bharhut and the paintings from Ajanta.

52. CODRINGTON, K. de B.

"Indian cairn and urn burials" in *Man*, XXX (1930), Art. no. 139.

A superficial survey of the pottery from the cairns and the urn-burials of south India and the Deccan suggests a common cultural unity. Ancient burial of south India are classified into six types: (1) urn-burials like those of Wyanaad and typified by Adhichchanallur in Tirunelveli District; (ii) legged urns or pottery cists of all sizes (Perumbair and Pallavaram in Chingleput District); (iii) cave tombs of Malabar; (iv) pit chambers cut at right angles into the rock and with a central opening in the domed roof and closed by capstone; (v) stone burial chambers beneath cairns or stone-circles; and (vi) Deccan stone cists under stone-circles. Details of construction, finds inside the graves, *viz.*, pots, personal ornaments etc., and the mode of disposal are also given. Chronologically these graves range from the third century B. C. to fourth century A. D.

53. COGGIN BROWN, J. C.

"Note on cinerary urns found in the Munda country" in *JBORS*, I (1915), p. 131.

The Mundas call their predecessors Asurs; their graveyards are known as *Hasur kutti*.

Of the two urns examined, one contained broken bits of decayed bones of a child, copper bracelet, an anklet and a number of rock-crystal beads while the other had carbonized adult bones.

54. COLE, R. A.

"On the Cromlechs in Coorg" in *PASB* 1868, pp. 151–55.

A detailed structural description of a double cromlech discovered by Lieutenant Mackenzie is qiven. The cromlech was found near Veerajendrapet, south Coorg. The aperture (port-hole) in the front, the author says, could have been used for ingress or egress.

In some of the excavated cromlechs, fragments of earthen wares, pieces of charcoal, bones and also pieces of bangles were found. The cromlechs always face east and west.

55. COLE, R. A.

"On the discovery of cromlechs in Coorg" in *PASB*, 1868, pp. 243 45.

Cromlechs are known as *panduparre* in the local dialect. Kistvaens and dolmens are to be found here. Small goblets of black glazed pottery, basin and urns are usually found inside them. Particular mention may be made of a three-spouted vessel which the author thinks might have used for distilling.

56. COLE, R. A.

"Memorandum on the Cromlechs found in Coorg" in *PASB* 1869, pp. 54–59.

Seventeen cromlechs in and around Fraserpet, Ramaswami Kunne and nearabout half-way to Somawarpet were excavated. In all these, pottery, pieces of bone and iron were found. A pot from a cromlech in Fraserpet contained paddy husks while *ragi* (a kind of millet) was found in others. The largest circle enclosing the cist chamber was forty-seven feet (14.3 m.) in diameter. These are locally known as *panduparre* the stone of the Pandus–and *pandura mane* or the house of the Pandus.

57. COLE, R. A.

"Cromlechs in the vicinity of Veerajendrapet" in *PASB* 1869, pp. 184-86.

The author excavated eleven cromlechs with segmental apertures. These apertures were perhaps for introducing bones of the dead. The opening is always at the top of the front slab and immediately below the top stone.

The pottery from these cromlechs consisted of thick black and red vessels; four legged pot; spear or javelin, arrows and hilts of daggers of iron. There were no bounding circles.

58. COLE, R. A.

"On cromlechs in Southern India" in *PASB*, 1869, pp. 202–203.

Some cromlechs were excavated on the Moorybetta Hills in north Coorg wherein were found miniature vessels identical in shapes to the larger ones found elsewhere. Several beads of agate (including a few etched ones) were also found.

59. COLE, R. A.

"Cromleches" in *Ind. Ant.*, II (1873), pp. 86-88.

The author found megalithic monuments at Mashalli (nearabout Perisandra in the Kolar District) on the rocky hills on the border of Chikka Ballapur, Gudibanda Taluk, at Gudibanda itself, near Kolar, near Bowringpet (now known as Bangarupet) and also at a village known as Margal.

Excavation of a few monuments revealed the usual burial paraphernalia such as pottery of all the megalithic types including urns, iron implements, bones, etc. Mention may be made of a soapstone pestle from Margal grave.

60. CONGREVE, H.

"Some observations on a remarkable cromlech near Pulicondah in the Carnatic" in *MJLS*, XIII (1844), pp. 47-51.

This is a cromlech with double circle and is compared to 'Kit's Coty House' near Aylesford in Kent. This the author believes to be of Celtic origin and while quoting Pennant, observes that a similarity in religion existed in all the places where cromlechs and kindred monuments exist.

The Thautuwars were originally plain dwellers being driven to hills by the invading Hindus. The cave temples were of the Scythians or Druids which were subsequently utilized by the Hindus. He also describes the method of construction of a cromlech.

61. CONGREVE, H.

"The antiquities of the Neilgherry Hills including an enquiry into the descent of the Thautuwars or Todars" in *MJLS*, XIV (1847), pp. 77-146.

The customs of the Todars are compared with those of the Scythians and, Druids, and their monuments, cromlechs, kistvaens and cairns are likened with the Celtic Scythian and Druidical ones. The author concludes that the Thautuwars were of the Scythian descent.

62. CONGREVE, H.

"Remarks on the Druidic Antiquities of South India" in *MJLS*, XXII (1861) pp. 205-11.

On the basis of similarity of monuments in Europe the author believes that the cromlech at Pulicondah to be of Druidic origin.

A monument answering the description of 'Topikal' was opened and pieces of earthen ware urns, iron spear-heads and gold ornaments were recovered.

The local people believe that the Tolemen (Dolmen) have curative effect. The upright stones are more Druidical in character. The beads found in the cairns had perhaps, talismanic protective effect. The contents of the Nilgiri cairns and the ones in England are similar. Likewise Indian sepulchres are compared with those obtaining in England.

63. CONGREVE, H.

"On Druidical and other antiquities between Mettapoliam in Coimbatore and Kurnul on the Tungabhadra" in *MJLS*, XXIV (1878), pp. 150–68.

Among the megalithic monuments discovered by the author special mention may be made of those at Pallipolim and Udenhalli.

The author says" one of the migratory bands (Celtic nations) instead of pursuing the route along the coastal Africa, deviated from it, crossed Persia and Baluchistan and eventually found its way to South India generally called Dravida desa".

"Turanian or Scythian race became settled in southern portions of India after an invasion .... by a more southern route than the Aryans . . . that this southern route lay along the Malabar coast where cromlechs are found as far as the opening in the ghats at Palghatcherry through which they penetrated to the southern plains. In the Nilgiri and Anamalai mountains . . . and in the country of Coimbatore . . . proof of their first settlement in India from which they subsequently radiated in various directions is available.

64. COUSENS, H.

"Lists of Antiquarian Remains in the Central Provinces and Berar" in *RASI* (NIS), XIX (1897), pp. 1-105.

The book contains among other things a gazetteer of places where megalithc monuments *viz.*, stone–circles, cromlechs, kistvaens, etc., are found in the Districts Chanda, Bhandara and Nagpur.

65. CUNNINGHAM, A.

"A Tour in the Central Provinces in 1873–74 and 1874–75" in *RASI*, IX (1879), pp. 140–41.

Two cromlechs or dolmens were found at Keljhar between Chanda and Markanda. The author opines that these were temples constructed

by kurumbar shepherds for their deities, Mallannadeva and Mallannadevi. Similar structures were also noticed at Mulh.

66. DALTON, E. T.

"Rude stone Monuments in Chutia Nagpur and other places" in *JASB*, XLII (1873), pp. 112–19.

The Kols or Hos, a section of the Mundas of Chota Nagpur have a custom of erecting stone monuments over buried ashes of their dead. The author describes their customs and the megalithic monuments, *viz.*, cairns, menhirs (Monumental monoliths with little cromlechs in front, ghost seats, etc.) at Rangso, Chokhatu, Borkela and Sarandapir. The last mentioned site is a vast burial ground; the monuments numbering in thousands.

67. DALTON, E. T.

"Rude stone Monuments in Chutia Nagpur" in *PASB*, 1873, pp. 130–32.

This is an abstract of a paper describing the sepulchral monuments of the Kols from Sarandapir, District Singhbhum. Judging from their Mongolian features the Kols seem to be primitive.

68. DEO, S. B.

"Excavations at Khapa and Takalghat, District Nagpur" in *IA 1967-68*, pp. 33-34.

The excavations were conducted to connect the habitational deposits at Takalghat with the stone-circles at Khapa.

Six stone-circles, their diameters varying between 12 and 23 m. were opened at Khapa. Inside the stone-circles were found rubble and clay filling, the maximum thickness being 1.3 m. The rubble was found overlying the brownish-black clay. Fragmentary human and animal bones (the latter of the *equidae* family), crushed pieces of micaceous red and Black-and red Ware were found in the centre of the circle. Copper and iron objects and a number of etched and unetched carnelian beads were also recovered.

The iron objects comprised a sword, a spear-head, adzes, drills, frying pans, and fragmentary blades. Copper objects were solid bangles, pokers, adzes, drills, etc. Special mention may be made of a dish, with a boss in the centre, covered with a conical lid crowned by four birds. Besides, along with the bones of a horse was found an ornament of thin copper sheet resembling the face of a horse with several conical knobs rivetted with iron nails and a score of hollow tubes suspended from it. These have no parallels in India.

69. DEPARTMENT OF ARCHAEOLOGY, GOVT., OF ANDHRA PRADESH.

"Excavation at Pochampad, District Adilabad" in *IA 1964–65*, p. 1.

A few cairn–circles, cists and platforms were excavated. Cairn–circles concealed rectangular pits and were oriented north–south. Grave goods consisted of pot of Black-and-red, all black and iron implements *viz.*, lances or javelins, daggers with copper hilts, sickles and axes. A strapped axe resembling a modern sandal was an interesting find. Miniature terracotta figurines were also discovered in them.

70. DEPARTMENT OF ARCHAEOLOGY, KERALA STATE.

"Rock–cut cave in District Kozhikode" in *IA 1959–60*, pp. 68.

At Panniyannur amsom, Chembod desom of the district a rock-cut cave with two compartments was discovered.

71. DEPARTMENT OF ARCHAEOLOGY, KERALA STATE.

"Megalithic site, Kanimangalam, District Trichur" in *IA 1967–68*, pp. 66.

An urn-burial site at Nedumpuzha in village Kanimangalam, was discovered, wherefrom three pyriform jars were collected.

72. DEPARTMENT OF ANCIENT HISTORY AND ARCHAEOLOGY, UNIVERSITY OF MADRAS.

"Exploration in District Salem" in *IA 1961–62*, p. 26.

Urn-burials without megalithic appendage were noticed at Mohanur.

73. DEPARTMENT OF ANCIENT HISTORY AND ARCHAEOLOGY, UNIVERSITY OF MADRAS.

"Exploration in District South Arcot" in *IA 1961–62*, p. 26.

Urn-burials without any megalithic appendage at Sengamedu and Erumanur and stone-circles at Mangalampettai were discovered. At Sengamedu a polished stone celt was also picked up.

74. DEPARTMENT OF ANCIENT HISTORY AND ARCHAEOLOGY, UNIVERSITY OF MADRAS.

"Exploration in District Tiruchchirappalli" in *IA 1961–62*, pp. 27-28.

Megalithic burials mostly stone-circles, cairn-circles and dolmens were discovered nearabout the 56 km. stone on the Tiruchchirappalli-Madras trunk road and at Manmangalam near Karur. Urn-burials and cists were also noticed at Kottampatti.

75. DEPARTMENT OF ANCIENT HISTORY AND ARCHAEOLOGY, UNIVERSITY OF MADRAS.

"Exploration in District Salem" in *IA 1962-63*, p. 13.

A megalithic site at Mookanurcheri near Semmanhalli railway station was noticed.

76. DEPARTMENT OF ANCIENT HISTORY AND ARCHAEOLOGY, UNVERSITY OF MADRAS.

"Exploration in District Tiruchchirappalli" in *I.A. 1963-64*, p. 20.

Stone - circles at Chinnamettukkali were found.

77. DEPARTMENT OF ARCHAEOLOGY, UNIVERSITY OF MADRAS.

"Exploration in District Thanjavur" in *I.A. 1964-65*, pp. 23-24.

Broken pieces of urns were noticed at Rajendram, Sikkal, Tillaiyadi and Vallam.

Megalithic Black-and-red Ware was picked up, besides the above sites, at Akkadu, Akkur, Ayirattali, Kilvelur, Nagatti and Solamaligai.

78. DESIKAN, Srinivasa V. N.

"Exploration in District Coimbatore" in *I.A. 1957-58*, p. 38.

Cairn - circles were noticed at Virapandi, Gudalur, Bollichi and Vellamadai. A double chambered port - holed cist was found at Kalapatti while urn - burials were observed at Periyanayakkanpalaiyam.

79. DESIKAN, Srinivasa V. N.

"Cairn circles in District Coimbatore" in *IA 1958–59*, p. 71.

Cairn - circles were discovered in Taluk Palladam.

80. DESIKAN, Srinivasa V. N.

"Exploration in District Coimbatore" in *IA 1960–61*, p. 18.

Cairn - circles at various places in the Dharmapuri (Dharapuram), Avinashi and Erode Taluks; cist burials at Vilakethi, Pasur, Kongalnagaram and Nattukkalpalayam; and urn - burials in the Dharmapuri (Dharapuram) and Pollachi Taluks were noticed.

81. DESIKAN, Srinivasa V. N.

"Exploration in District Coimbatore" in *IA 1961–62*, p. 26.

Several megalithic sites were discovered; types of monuments and the place are as under :

Urn - burials	:	Karumandichellipalaiyam
Cairn - circles	:	Kadirampalli, Pandiyampalaiyam, Nichchampalaiyam, Toranavari, Vettiyankinar, Chinnakavundanvalasu, in Erode Taluk; and Marayanpalaiyam, Nallur and Panaiyampalli in Gobichettipalayam taluk.
Cists	:	Elavamalai and Nichchampalaiyam in Erode Taluk.
Menhirs	:	Nichchampalaiyam, three each circumscribed by a single stone - circle.

82. DESIKAN, Srinivasa V. N.

"Exploration in District Coimbatore" in *IA 1962–63*, p. 13.

Cairn - circles at Elathur, Ikkarai, Irugalur, Karidoddamplayam, Mottanur, Nambiyur, Pudupeerkadavu, Pungampalli, Semtipalayam, Thathapalli, Vagampalayam, Varapalayam, Kodangipalayam Mettubavi, Muthur, Panapalli, Sethiyakkapalayam, Sokkanur, Vaguthampalayam and port-holed cists at Chikkarasampalayam and Periakalandai were observed.

83. DHAVALIKAR, M. K.

"A Plough - coulter from Brahmagiri (India)" *Antiquity* XLII (1968), pp. 137 - 38.

An iron tool from an excavated megalith (megalith II) at Brahmagiri (see below no. 343) has a family resemblance to the iron plough - coulter of the Roman Empire. Between third century B.C. and first century A.D. (to which time bracket the Brahmagiri megaliths have been assigned) Roman trade was active in southern India. Coulters were designed for havy soil, and the Deccan cotton soil is heavy too. Hence the traders from the Roman world could find an easy market here for this specialised tool. However, coulters were not widely adopted by the Indian agriculturists. The Brahmagiri specimen is a unique example.

84. DIKSHIT, Moreshwar Gangadhar.

Etched Beads in India, Deccan college Monograph series no. 4 (1949), pp. 1 - 79.

This is a dissertation on the etched beads found in India describing their decorative patterns and their distribution. Beads are dealt in two groups, *viz.*, from north Indian and south Indian sites; those from the megaliths being included in the latter. Patterns 23 to 28 are commonly found in the graves. Noteworthy individual decorative motif with crossed lines enclosed within attached squares is found on beads from Paravai, an urn - burial site in District Madurai, Tamilnadu. Two

distribution maps, one of beads and the other of the decorative patterns on beads found in India and several line drawings illustrate the book. It is of interest to note the use of exclusive decorative patterns in the two regions.

85. DIKSHIT, M. G.

"Excavations at Dhanora, District Drug" in *IA 1956–57*, p. 36.

Megaliths at Dhanora have been classed into four types: (i) apsidal stone-enclosure with a capstone lying flush with a heap of cairn; (ii) apsidal stone-enclosure with a central menhir; (iii) alignment of apsidal stone-enclosures of type (ii); and (iv) menhirs of huge size retained in position with buttresses of large boulders.

Four monuments, three of type (i) and one of type (ii) were excavated. In the apsidal enclosures the southern side is deliberately kept open. Type (i) was a pit burial and contained a few fragments of skeletal remains besides, beads, glass bangles; but strangely enough no pottery. One tomb contained a copper vessel. In the type (ii) monument nothing was found; hence in all probability, it served as a memorial.

86. DIRECTOR OF ARCHAEOLOGY, HYDERABAD.

"Burial sites etc., Hyderabad Near Topran a village in District Medak" in *IA 1953–54*, p. 38.

Stone-circles and menhirs were found here.

87. DIRECTOR, DEPARTMENT OF ARCHAEOLOGY, ANDHRA PRADESH.

"Exploration in District Guntur" in *IA 1962–63*, p. 1.

Behind the hillock at Mothadaka megaliths were found.

88. DIRECTOR, DEPARTMENT OF ARCHAEOLOGY, KERALA STATE.

"Megaliths, District Kozhikode", "Megaliths Districts Quilon and Palghat and "Rock-cut caves, District Trichur" in *IA 1961–62*, pp. 58–59.

Cists and cairn-circles were found at Edakkal and Neamannai.

Cists and stone-circles were noticed at Poothamkaira (Quilon) and Pallaveer (Palghat).

From the caves at Ponnani and Koonamoochi Black-and-red Ware and iron implements were obtained.

89. DIRECTOR OF ARCHAEOLOGY. KERALA.

"Rock-cut caves, Triprangode, District Calicut" in *I.A. 1962–63*, p. 68.

Rock cut caves at Triprangode in Muthuvancha desom in Taluk Quilandy were found from where were collected typical Black and-red Ware vessels.

90. DIRECTOR OF ARCHAEOLOGY, KERALA.

"Burial jars, Kumaramputhur, District, Palghat" in *I.A. 1962-63*, p. 68.

Burial urns at Kumaramputhur were observed. The site has been disturbed very much due to extensive quarrying operations.

91. DIRECTOR OF ARCHAEOLOGY, KERALA.

"Rock-cut caves, District Calicut" in *IA 1963-64*, p. 86.

Rock-cut caves, in Kumaranputhur were noticed; the contents of which seem to have been rifled.

92. DIRECTOR OF ARCHAEOLOGY, KERALA.

"Rock-cut caves, Choondal, District Trichur" in *IA 1963-64*, p. 87.

Rock-cut caves of the usual type with megalithic Black-and-red vessels were found at Choondal.

93. DIRECTOR OF ARCHAEOLOGY, KERALA.

"Megalithic cists, Pandupura, District Trichur" in *I.A. 1963-64*, p. 87.

Cists on both sides of the teak plantation at Pandupura were noticed.

94. DIRECTOR OF ARCHAEOLOGY, KERALA.

"Rock cut caves, District Calicut" in *I.A. 1964-65*, p. 73-

At Mayppayur, Quilandy, rock cut caves, rectangular on plan and with a central pillar, benches and side-openings were discovered. Contents included Black-and-red pottery. At Nagaparambu, Nattuvattom Amsom, Tirur Taluk a different type with openings close together, suggesting a double entrance to a multichambered cave was found.

95. DIRECTOR OF ARCHAEOLOGY, KERALA.

"Rock-cut cave Elambaulassery, Ottapalam", "Rock-cut caves, Mangad village, Kunnamkulam, District Trichur" and "Burial jar, Sarvadhi Hill, Srekariam, District Trivandrum" in *I.A. 1967-68*, p. 66.

A circular cave with top-opening and with two globular vases of Black-and-end Ware for its contents was discovered at Elambalussery.

A circular cave with a bench on the eastern side and a rock-cut tripod on the western side entombing vases and bowls of Black-and-red Ware was noticed, at Mangad.

Some broken burial jars were noticed during quarrying operations at Sarvadhi Hill.

The finds from the first two places have been added to the collections of Trichur Museum.

96. ELLIOT, W.

"On the sepultural remains of Southern India" in *RBAST* (1886), pp. 134–35.

Various types of sepulchral tombs of southern India, *viz.*, stone-circles, rock-cut caves, topikals, etc., their character and nature of the grave goods have been dealt with. Special mention may be made of the monuments of the Nilgiri region. These are traced to a race—kurumbars—professing Buddhist faith and who were destroyed by the Cholas. The monuments are 1600–2000 years old.

97. ELWIN, V.

"Funerary customs in Bastar State" in *MI*, XXV (1945), pp. 86–133.

The author has given a very detailed and descriptive account of the funerary rites and eschatological beliefs of the aborigines *viz.*, Hill Maria, Bison Horn Maria the Jhoria and Ghotul Murias of Bastar.

Two kinds of monuments, *urasakal* (menhir) and *danyakal* (flat stone with four lithic supports at the corners) were erected in honour of the dead. Small cairns and wooden posts were also erected as substitutes for lithic monuments.

The aboriginal considered the dead as a guard keeping close watch upon their kith and kin. Since the dead were prone to take offence, suspicious, extremely revengeful and unsympathetic, the living aborigine left no stone unturned to keep them in their place and quiet. He also believed in bringing the soul back to the family so that the dead could find some warmth and love and receive the comfort they needed.

98. FAWCETT, F.

"Rock cut sepulchral chambers in Malabar" in *JAI*, XXV (1896), pp. 371–73.

A rock-cut cave accidentally discovered on the out-skirts of Calicut, was excavated. This cave differed from what Logan had described (see below 163 and 164). Structural details and the presence of a granite door-slab and the absence of bounding circle have been mentioned. Contents inside were pottery and iron implements.

99. FAWCETT, F.

"South Indian stone circles" in *JAI*, XXV (1896), pp. 373–74.

The stone-circles varied in diameter from thirty to fifty feet (9.1 to 12.1 m.). In some monuments there was an opening on the eastern side. All the stone-circles excavated were sepulchral. The chambers within contained the usual burial furnishing, pots weapons of iron, fragmentary bones, etc.

100. FERGUSSON, James.

Rude stone Monuments in all countries, their age and uses (London, 1872), pp. 1–559.

One chapter is devoted to Indian monuments. Besides, describing dolmens, menhirs, cairns etc., found in different parts of India, the author observes that the number of monuments are greater in India, than in Europe. The Khasis are the only tribes who erect such monuments even now. Similar vestiges are found in western India, and are apparently intended for similar purposes. The author is of the opinion that the similarity between the Indian and European monuments cannot be accidental. When and how intercourse between these took place is difficult to determine. As regards the distribution of these in India, he says that the rude stone monuments are not found in the Gangetic valley or in those of the tributaries of the Ganga. Neither are they to be found in the valleys of the Narmada and Tapti; that is to say to the north of the Vindhyas. They are observed in the valleys of the Godavari, Krishna and their tributaries, on both sides of the ghats up to Cape Comorin and all over the Madras Presidency. The author is of the opinion that major problems, ethnological and archaeological, of the tomb-builders would be solved if the erstwhile Nizam's dominion is fully explored and studied.

101. FOOTE, R. B.

Government Musuem Madras : Catalogue of the prehistoric antiquities (1901), pp. 1-131.

In this are included Paleolithic, Neolithic and Iron Age antiquities collected by Breeks, the collectors of Tinnevelly (Tirunelveli), Madura (Madurai), Malabar and Coimbatore Districts; Branfill, Stoney, Cardew, Fawcett and Carter. The author has given an excellent analysis of Iron Age antiquities, especially of Breeks's collection from Nilgiris. Several plates illustrate the book.

102. FOOTE, R. B.

The Foote Collection of Indian Prehistoric and protohistoric Antiquities-Note on Ages and Distribution (1916)

Iron Age in peninsular India was not preceded by Bronze Age, but succeeded the neolithic age. Ceramics can be attributed to four ages namely, neolithic, overlap of stone and iron and Iron Ages and the proto-historic periods. Iron Age vessel is distinguished by the rich colours and highly polished surfaces, which in some cases are elaborate with artistic mouldings. The evolution of potters' art reached a stage of real beauty in the Iron Age. A district-wise details of antiquities collected by him is incorporated. Of particular interest will be Madura (Madurai), Salem and Mysore districts.

103. FRERE, H. B. E.

"Descriptive notices of antiquities of Scinde" in *JBBRAS*, V (1853–57), pp. 349–69.

The cairns and cromlechs are similar to those described by Capt. M. Taylor. These, known as '*kotree*,' '*kafirs*' graves are to be found throughout the hilly tract extending from Capo Monzo upwards. Numerically they are greater near the natural springs. The monuments consist of stone-enclosures, wells, cromlechs, caves, cairns and graves or barrows.

The stone-enclosure near Karachi, constructed of large unhewn stones without cement in shape of a parallelogram consists of seven chambers and is locally known as '*sath gar*'.

The graves or barrows are abundant in the valley of Naing. The stone graves are found throughout the hilly districts in elevated positions and consist of three or four large stones set on edge with a flat one placed horizontally on the top. There is no clear orientation for these described by Taylor. Macleod found small particles of calcined bones in a grave. Some monuments could also be seen on the right bank of the Gaggar.

The uniformity in plan and mode of construction roughly squared and laid without cement go to prove that these form the work of one people.

104. GARRICK

"Report of a tour in the Punjab and Rajputana in 1883–84" in *RASI*, XXIII (1887), pp. 49–50.

At Kuchera near Nagaur some stone-circles, twelve to fifteen feet (3.6–4.6 m.) in diameter were found. It is alleged that these were

constructed for a favourite game of the Rajputs namely '*tahar or ewaro*'. Their megalithic character is not known.

105. GARSTIN, J. H.

"Dolmens of the Coromondel Coast" in *Ind. Ant.*, V (1876), p. 159.

Dolmens bounded by stone-circles were excavated at Kollur near Tirukovilur and Devanur. Structural details including the presence of a circular port-hole in the eastern orthostat has been given. Contents inside were the usual pottery, iron objects and skeletal remains, besides terracotta legged sarcophagi; the one at Kollur having fifteen legs.

106. GHURYE, G. S.

"Funerary monuments of India" in *MI*, VI (1926), pp. 26-57 and 100-139.

Various types of megalithic burials have been discussed in detail with parallels from Egypt and Mycenea.

Indian dolmens are quite different from the Caucasian ones. Differences between these are enumerated.

Megaliths are intimately connected with the Egyptian funerary monuments. The eastern orientation of the Indian tombs is compared with the Egyptian funerary structures after the fourth dynasty.

The Syrian monuments have nothing in common with the Indian ones. The Buddhist *stupa* is derived from the megaliths.

On the basis of architectural development these burials are dated to 1000 B. C. The author is of the view that India is the home proper of the dolmens.

107. GORDON, D. H. and M. E.

"The cultures of Maski and Madhawpur" in *JASB*, IX (1943), pp. 83-98.

The dolmens of the Rajgir district cannot be called truly megalithic. The thin slabs used in cists may or may not be relatives of the massive dolmens found elsewhere, including India. Graffiti as a probable script of an unknown language is rather an improbability.

108. GUHA, B. S.

"A comparative study of the human crania excavated at Adittanallur" in *PISCA* 1926, p. 307.

A dozen of the well preserved crania from Adichchanallur was examined in detail and compared with Bayana and Sialkot skulls of north India and the Veddah crania of Ceylon.

109. GUPTA, Pabitra and Pratap Ch. DUTTA.

"Human Remains excavated from Megaliths at Yelleswaram (Andhra Pradesh)" in *MI* LXII (1962), pp. 19-34.

The study of the cranial (numbering six) and skeletal (a few long bones) revealed the following important features:

There were equal number of male and female skulls. One male skull was hyper-brachy cranic and to brachycranic. Of the female skulls one was meso, one dolico and the other brachycranic. The skulls were even-cephalic in cranial capacity and hypscranic in the length-auricular-height index. Stature of these people appeared to be above medium to tall.

The general morphology and the metric characters did not favour an autochthonous theory. These skulls are compared with Sialk IV and northern Persians, indicating Scytho-Iranian affinity.

The study of the Yelleswaram skulls offered support to the findings and conclusions of Sarkar (see below no. 183) regarding the Brahmagiri skeletal remains.

110. HAIMENDORF, C. Von E.

"Megalithic ritual among the Gadabas and Bondos of Orissa" in *JASB*, IX (1943), pp. 149–87.

The Gadabas add new stones to the '*sodor*' *Gotamela* (memorial feasts) and *Ongon gota* (crab festival). New *Sindibor* are rarely built by the Bondos but new stones are added during *gewursung* ceremony and *gia* festival. Besides these the Bondos erect stone walls and dolmens.

The Gadabas erect menhirs and flat sitting stones on the village 'sodor'. The Bondos build their dolmens close to a path. Both use them as sitting places for the living.

To the Gadabas these are only additions of memorial stones while to the Bondos these are the seats of *Bursung*, the Earth deity, and the addition of a new stone is a ritual act connected wtth her cult. The author gives an account of the ritual connected with the erection of these monuments.

The megalithic monuments and rites of the Gadabas and Bondos fit well into the general picture of the megalithic civilization of South East

Asia. The similarity of these with the Assam megaliths both in the underlying idea and nature of monuments stress that the megalithic culture of Orissa is a branch of that megalithic civilization which is so widely distributed in South East Asia. Migrations took place in neolithic times and they did not penetrate in any strength beyond the Godavari.

111. HAIMENDORF, C. Von F.

"The Problem of megalithic cultures of Middle India" in *MI*, XXV (1945), pp. 73-86.

The purpose and meaning of the megalithic monuments of the Gadabas and Bondos have the same basic idea as that of the Assam tribes. The connecting link between the Gonds and the Nagas is to be found in the forked 'Y' posts. Similarities of customs and rituals are found between the middle Indian and north-east Indian tribes.

The megalithic culture of the South East Asiatic type found among the Gadabas, Bondos and the Bastar Gonds came from the east with its centre of diffusion in eastern Assam or north Burma or south-west China. The people speaking Austronesain languages are connected with this culture. It is quite likely that there was an earlier migration of Austroasiatic culture untouched by the Austronesian. This megalithic culture was already developed before the commencement of the migration of Austroasiatic races westwards into peninsular India. The author discounts the Dravidian speakers as possible representatives of this megalithic culture of South East Asiatic affinity. The characteristics of the South East Asiatic megalithtc culture and that of the south Indian megalithic culture is clearly brought out. It is to be seen whether both had a common origin.

112. HAIMENDORF, C. Von F.

"New aspects of the Dravidian Problem" in *TC*, II (1953), pp. 127-135.

The Iron Age megalith-builders were Dravidian speakers. This iron-using culture in south India was an intrusion superimposing itself on the more primitive indigenous cultures and iron did not come from the north. A theory of immigration by sea or southward movement along the west coast of India has been postulated. Brauhi in Balucistan would be a colony founded as a result of megaliths naer Karachi. This migration should have taken place sometime about 700-400 B. C. No Dravidian speaking population is found in north India at present. The tribal belt formed effective barrier between southern Dravidians and northern Aryans, which got reduced due to pressure from both sides.

113. HARDING, H. O. D.

"Note on some old graves in the Coimbatore District" in *MJLS* (1889 - 94), pp. 13 - 20.

Stone dolmens found at Makinaikenpatti and Nattukalpoliem near Pollachi have been described. These stone cists, partitioned into four chambers have two port-holes in the big stone-slab of the eastern wall. The contents were the usual megalithic furnishing like pottery (some painted), bones, etc.

These were not residences of dwarfs. The east - west orientation of the dolmen is connected with the sun - worship. *Pandukuri*, by which name these are known seems to be the corrupt form of *mandavarkuli*.

114. HUNT, E. H.

"Hyderabad cairn burials and their significance" in *JRAI*, 54 (1929), pp. 140 – 56.

The interments in the cairns (cists) in Hyderabad mainly from Raigir, *viz.*, bones, pottery, beads, gold, silver, copper and iron objects have been dealt with in detail. The stone - circle varied from eighteen to seventy feet (5.5 to 21.3 m.) in diameter. The cairns were found in hard ground unsuitable for cultivation. The cists were oriented north - south with a little variation and were found very deep (sixteen feet–4.9 m. and more) below ground. The slabs were lowered down through a ramp, either on the north or the south. The last item in the construction of cairns was the placement of the bounding circle - stones.

Multiple burials were common. Extended burials were noticed in two graves.

Pottery included Black - and - red varieties, with incised decorations, rarely painted pottery, some handmade, some wheel - made and some partially hand - made and partially wheel - made. That the pot - marks might be owner's marks has been discounted, though there is a possibility of their being tribal marks. The 'double circle' marks might be symbolic indication of a young girl. Beads of lapis lazuli were found and this would indicate external association and possible foreign influence has also been indicated. While gold was rare, copper was frequently found. Iron objects included dishes, arrow–heads, knives, spears, etc.

The cranial index of the remains varied from 75 to 90. Urn–burials, though rare were found at Raigir and Dornakal.

115. HUNT, E. H.

"Megalithic burials in South India" in *JRAS* 1933, pp. 508-10.

The burials have been divided into three classes: (i) cist with north-south longer axis; (ii) rectangular cists with port-hole on the northern slab; and (iii) cist with a subsidiary cist inside the main one and with a port-hole on the east. These types suggested an evolution of ideas connected with the burials. Besides, cairns, men-hirs, cromlechs, dolmens, etc., were noticed. Foreign contact has been suggested on the strength of the presence of lapis lazuli beads. Nickel impurities in copper suggested a link with Mesopotamia.

116. HUNT, E. H.

"Hyderabad cairns-Their Problems" in *JHAS*, 1916.

The several features of the cairns in the Hyderabed region, *viz*., their structure, distribution, surface indications, the cist within and its constructional details, interments, orientation of the cists and their significance, builders of the cairns etc., have been discussed in this paper.

117. HUTTON, J. H.

"Carved monoliths at Dimapur and an Angami Naga Ceremony" *JRAI*, 52 (1922), pp. 55-70.

Monoliths, forked and cylindrical and elaborately carved are found at Dimapur. Planting such forked posts as memorials of feasts are practised even to-day in Assam. The author tries to trace the origin of the Dimapur ones through a parallel ceremony of the Angami Nagas.

118. HUTTON, J. H.

"The meaning and method of the erection of monoliths by the Naga tribes" in *JRAI*, 52 (1922), pp. 242-49.

The *kechiesu* and the *lisu* ceremonies are performed after the *terhengi genna*, a celebration of the successful harvesting of rice crop. *Kechiesu* ceremony is the translation into permanancy of stone of the effect previously sought by wooden posts. The author believes that the monoliths are phallic symbols. Stones are never erected singly. Kacha Nagas erect an upright stone (male) and a dolmen (female) and cites several examples for this analogy. The erection of stone monoliths and the ritual connected with it is described in detail.

119. HUTTON, J.H.

"Carved monoliths at Jamuguri in Assam" in *JRAI*, 53 (1923), pp. 150-59.

These are situated close to the bank of the river Dayang, seven miles (11 km.) south of Jamuguri railway station. These are compared with those at Dimapur.

The custom of erecting monoliths is connected with former culture of the earlier inhabitants of Dhansiri and Dayang valleys. A parallel to this is to be found in the Munda monoliths in Chota Nagpur. Mundas also belong to the Monkhmer race. These, perpetuating the memory of the dead, are erected to assist the fertilizing function of the Nature, and possibly originated out of the identification of the soul with the reproductive powers of the Nature.

120. HUTTON, J. H.

"Some megalithic work in Jaintia Hills" in *JASB*, XXII (1926), p. 333.

In the Jaintia Hill region megalithic monuments *viz.*, stone-circles, dolmens, menhirs etc., were found. Details of these are recorded.

121. HUTTON, J. H.

"Naga chank ornaments and South Indian affinities" in *Man*, XXVI (1926), Art. no. 145.

All the chank ornaments obtained from the Odugattur graves by Richards (see below no. 243) are not worn by one single Naga tribe, but almost all are used by one or the other. Thus, the chank with the columella cut away is worn by the Kacha Nagas, Khorias and Angami Nagas on the nape of the necks; the cigar shaped beads by Ao and Chang tribes; and the discs by the Chang, Phom, Konyak and Yimtsung Nagas.

122. HUTTON, J. H.

"Prehistory of Assam" in *MI*, VIII (1928), pp. 228-32.

Dolmens possibly came from south India. The probable route of the spread was across the Bay of Bengal and then back again westwards from further Asia. The probable origin was from Indonesia from where the use of arecanuts spread to India.

123. HUTTON, J. H.

"Naga Chank ornaments and south Indian affinities" in *Man*, XXX (1930), Art. no. 65.

The author finds that the chank with the columella cut away (similar to those found at Odugattur) are worn as bracelets by the Konyak Naga women.

124. I

"Cinerary Urns, Ancient or Modern" in *Ind. Ant.* X (1881), p. 154.

The author doubts the antiquity of the urns containing human bones buried under two large boulders in front of rock bearing inscriptions (cf. Cunningham's Report vol. VI) at Bairat found by Carlleyle, for even now the custom of burying bones in pots for ultimate disposal in the Ganga is a custom prevalent among the Hindus.

125. IYER, Krishna, L. A.

"Prehistoric Archaeology in Kerala" in *QJMS*, XX (1929-30), pp. 115 126.

The article deals mainly with the megalithic monuments in Kerala. Views of a few authors regarding the race responsible for the construction of these have been discussed in detail. Kodaikallus, umbrella stones, kistvaens, menhirs and burial urns occurring in the erstwhile Cochin State are dealt with. Besides, a geographical distribution and spread of the megalithic monuments, tradition and the mode of burial are also given. Megalithic monuments came to be constructed due to culture-contact.

126. IYER, Krishna, L. A.

"The Significance of megalithic monuments" in *QJMS*, XXIX (1938-39), pp. 58-61.

Distribution of megalithic monuments follows the zones of primitive tribes in India. Dolmens though dimunitive, are still erected by certain tribes. The earliest are the largest. Since the present day tribes do not display a tendency to build dolmens there is loss of culture. This can be detected in the case of the *Malai Arayans* of Central Travancore. *Muthuvans* and *Vellalas* of Anjanad valley do not evince interest in constructing dolmens. This, and the examples of the Todas are evidences for the low level material culture living in an area abounding in remains of high civilization. The author refers to the theory of Major Munn (see below 179) that the megalith-builders were mining for gold, copper, iron and diamonds. There is perhaps some connection between goldwashing and goldwashers, and megalith-

builders; so too between mineral deposits and megalithic monu ments.

127. JOHN, N. M.

"Exploration in Districts Calicut, Ernakulam, Trichur and Trivandrum" in *IA 1963-64*, p. 13.

Discovered urn-burials at Chengamenad. Numerous urns disturbed while digging pits for rubber plantations yielded iron implements like axes and swords. Bones were not found. Two caves at Chundel near Kunnamkulam were also noticed.

128. KEARNS, Rev. J. E.

"Archaeology in North Tinnevelly" in *Ind. Ant.* II (1872), pp. 202 203.

Excavation of many urns, particularly in Kourttalam revealed therein pottery and iron implements. No stone objects were, however, available. *Kalle Kallu* are *sati* stones.

129. KEARNS, J T.

"The cairns of Tinnevelly" in *MJLS,* XXI, (1859), pp. 27-30.

Urns were surrounded by a chamber of unhewn stones and they contained pulverised bones, several iron implements *viz.*, spear-heads, axe with ring, etc., and small earthen vessels. The pots were similar to those found in Anamalai and Nilgiri monuments. The author is of the view that these cairns were Buddhistic or *jaina* in origin. These monuments resembled the Irish ones though the absence of primitive weapons and the superior finish of the earthen ware would go against the comparison.

130. KHAN, Mohammad Abdul Waheed.

'Excavation at Yelleswaram, District Nalgonda" in *IA 1961–62*, Pp. 2–3.

In continuation of previous year's work a dolmenoid cist and a few urn-burials were excavated.

131. KHAN, Mohammad Abdul Waheed

"Excavation at Yeleswaram, District Nalgonda" in *IA 1962-63* pp. 2-3.

Four types of megaliths, dolmenoid-cists, port-holed cists, cairn-circles and urn-burials were excavated. Megalithic pottery and iron objects formed the burial furnishings. One cairn-circle revealed two skeletons, buried one below the other.

132. KHAN, Mohammad Abdul Waheed

A monograph on Yeleswaram excavations. Andhra Pradesh Archaeological Series XV (1963), pp. 1–69 with plates and figures.

Of the six periods revealed through excavations the megalithic period (Period I) assignable to the middle of the second-first century B.C. is the earliest. No habitational vestiges of the megalithic Period was, however met with. Four types of burials were noticed.

Type (i) A dolmenoid-cist with a partition slab of stone which divided the cist rouqhly into two halves or compartments, but without a port-hole ; (ii) A cist with port-hole containing a small cist within it ; (iii) A cairn-circle ; and (iv) An urn-burial.

Construction details of these tombs are given.

A red ware pot inside Type (ii) contained splinters of charred bones. The plan of the cist is a clockwise *svastika* unlike that of Brahmagiri where it is anti clockwise. The cairn-circle enclosing a pit entombed a double skeleton one above the other in fully extended and articulated position a very rare feature indeed. Along with this, bones of an animal, probably of horse was also found. The skeletal remains were laid on an ashy deposit. The urn containing the skeletal remains of en infant or adult had for its lid an inverted bowl and was found in the north-west quadrant of a *stupa* below the historical period. Another burial of this culture was found in a pit with north-south orientation under the enclosure wall of the temple-complex. Pottery consisted of all black, all red and Black-and-red wares. They were generally burnished with smooth pebble or bone tool. Interesting was a circular stand of black ware with triangular and rectangular perforations on its side. Iron objects included javelins, sickles, tanged daggers, lances etc.

133. KHAN, Mohammad Abdul Waheed

"Excavation at Pochampad, District Adilabad" in *IA 1963–64*, p. 1.

Preliminary exploration revealed cairn–circles, cists and a rectangular platform, perhaps intended for exposing the dead body. Three burials were excavated. A double circle enclosed a rectangular pit inside which at various levels pottery of the usual megalithic variety, iron objects like lances, javelins, daggers, sickles and cross strapped hatchets were found.

134. KHAN, Mohammad Abdul Waheed.

"Excavations at Yeleswaram, District Nalgonda" in *IA 1963–4*, p. 4.

At Kishapuram, on the slope of Mallagutta hill a megalithic site was located. Pottery and iron objects were recovered from the excavated megalithic burials.

135. KHAN, Mohammad Abdul Waheed.

"Excavation at Yeleswaram, District Nalgonda" in *IA 1964–65*, p. 4.

Continuing previous year's work more megaliths were excavated which included dolmenoid-cists, cairn-circles and urns. Contents were the usual megalithic grave furnishing of pottery and iron implements; the latter consisting of sickles, lances, swords, javelins, daggers, etc.

136. KHAZANCHI, T. N.

"Excavation at Burzahom, District Srinagar" in *IA 1960–61*, p. 11.

The third phase at Burzahom represented the megalithic complex. Excavation of a monument where only six vertical stones, forming a rough semi-circle were present did not reveal its purpose clearly. But it can be said that the megalith was erected towards the end of the neolithic period.

The associated occupational deposits yielded specimens of black burnished pottery, coarse in fabric and in polish low order; polished stone axes and bone tools. The dominant ware was the wheel turned red ware. Distinct in shape was the miniature vase which might have been used either as a toy or for ritualistic purpose.

137. KHAZANCHI, T.N. *et al.*

"Excavation at Burzahom, District Srinagar" in *IA 1961–62*, pp. 17–21.

Period III here is characterised by intrusive new ideas. Megalithic structures, roughly semi-circular and buttressed by rubble walling to keep the huge stones in position appear in this Period. Pottery of this Period is predominantly red ware, generally wheel-made and of a coarse fabric though some of the earlier Period continue.

138. KING, William.

"Notice of a prehistoric burial place with cruciform monoliths near Mungapet in the Nizam's dominions" in *PASB* 1877, pp. 189–91 and *JASB*, XLVI (1877), pp. 179–85.

A prehistoric burial site about eight miles (12.8 km.) to the south-west of Mungapet (Paluncha Taluk) on the right bank of the Godavari on the road to Hanamkonda was found. Among the stone-circles and cists were also noticed cruciform monoliths. Some of the stone-circles enclosed double cists.

139 KOSAMBI, D. D.

"Megaliths in Poona District", in *Man*, LXII (1962), Art. no. 108.

In this article the author gives the location and description of monuments which in his opinion, are megalithic. Microliths also were found near them. Cup marks due to the constant rubbing with mullers were found on some of the rocks. In most of the well-preserved sites the prevailing modern cult is that of the Mother Goddess.

140. KRISHNA, M.H.

"Excavation: Chitaldrug District, the Brahmagiri site" in *ARAM* 1940, pp. 63–74.

Topography and historicity of the ancient site of Brahmagiri *viz.*, structural, inscriptional and numismatic evidence, is given. Near Brahmagiri is also found a Minor Rock Edict of Asoka. Cromlechs are also found here. The name of the locality is mentioned in the inscription as Isila. The importance of the site Isila consists in its being a link between the historic Mauryan empire and the prehistoric cultures of the Deccan. The painted pottery etc., connect it with the already known site of Chandravalli, where coins have afforded datable evidence.

141. KRISHNA, M.H.

"Hongunde" in *ARAM* 1941, pp. 43–58.

About half a mile (0.8 km.) to the north of the village Hongunde, District Kolar, in the cultivable lands were noticed several cromlechs. Nearby traces of ancient gold mining were also observed. In the Tamil inscriptions in the Somesvara temple, the village is mentioned as Porkundam, which when translated in Kannada becomes Hongunde.

Two miles (3.2 km.) east of the village Parandapalli, District Kolar, on top of a rocky ridge and on its side were found more than one hundred cromlechs with bounding circle-stones.

142. KRISHNA, M,H.

"Excavation: Chitaldrug District, The Brahmagiri site" in *ARAM* 1942, pp. 100–109.

Main results of the cultural sequence as ascertained during the excavations in 1941–42 are given. A few cromlechs were selected and excavated. The plan of the cist was just like a *svastika*; one slab extending a little beyond the other. Port-hole 15 to 18 inches in diameter (38 to 46 cm.) was covered by a slab on the outside.

Some cists were separated by a slab on the outside. A few were separated into two or more by a slab contained separate burials. There were multiple burials also. The head of the corpse was to the north or north-west and the feet towards south or south-east, facing the hole in the wall-slab. The pottery generally consisted of coloured ware, painted red and polished and polished black ware including three legged jars. A few iron objects were also obtained.

143. KRISHNA, M.H.

"Cromlechs: Bettadapura" in *ARAM* 1943, p. 34.

At a distance of about two and a half miles (4 km.) west north-west of Bettadapura, all over the ridge of a large expanse of steppe country and in continuation of a range of hills called Sitegudde were found innumerable stone-circles, single and double. The proximity of the villages of Chikka Honnur and Dodda Honnur supported the theory that the authors of these cromlechs might have been prehistoric gold miners.

144. KRISHNAMACHARLU, C.R.

"Some prehistoric sites in the Ramnad and Tinnevelly Districts" in *ARASI* 1936-37, p. 67.

Many megalithic burial sites not mentioned by previous explorers in the Ramnad and Tinnevelly Districts were noticed and a description of the burial urns and their contents is given.

The epithet or prefix '*kil*' (Tamil lower) to any village would indicate prehistoric burial site; in support of which several examples from Salem, Malabar and Madurai Districts have been cited.

145. KRISHNAMURTI, C.

"Megalithic sites, District Mysore" in *I.A. 1960-61*, p. 65.

Cists and cairns were noticed in Chamarajanagar and Yelandur Taluks of the District.

146. KRISHNAMURTI C.

"Exploration in District Mysore" in *I.A. 1962-63*, p. 17.

Cairn-circles at Belaguppa, Belavadi, Bendravadi, Bogganapura, Gidagan, Akote, Huradahalli, Huthur, Kabbaghalli, Mangala, Padaguru, Paramapura, Rangupura, Sigavadi, Sivapura, Somahalli, Upayara and Yelachetti were discovered.

147. KRISHNAMURTI, C.

"Exploration in District Mysore" *I.A, 1963-64,* p. 26.

Following categories of megalithic sites were noticed at the places indicated against each:

Cairns and cists: Chikkahundi, Hirikatti, Laxmanapura and Sindhuvalli.

Habitation: Alattur-Mole, Coudarahundi, Harle, Hebya, Kamballu, Ramapura and Uppinahalli.

148. KRISHNASWAMI, V.D.

"Prehistoric Cochin" in *PISCA* 1947, p. 142.

The paper embodies the results of the exploration for megaliths in Cochin. A classification of megaliths is made. Two new types were discovered. A study of the pottery and other objects from the various types is made and their relationship indicated.

149. KRISHNASWAMI, V.D.

"Megalithic Types of South India", in AI, no. 5 (1949), pp. 35-45.

Morphology and intrinsic features form the criteria for classification of the megaliths. Monuments in Chingleput, Pudukkottai and Cochin, though forming a common complex yet are different in types. The dominant type in Chingleput is the dolmenoid-cist enclosing sarcophagus interment; Cochin's Topikal and rock-cut caves and the transcepted cists with port-hole of Pudukkottai are the significant monuments of the concerned regions.

The types, dolmenoid-cists, cairn-circles, transcepted cists are symbolically represented as D, C and KT, with sub-types D 1, D 2 and D 3 in dolmenoid-cist, each representing monuments of laterite orthostats dressed on the inner side, the half-concealed orthostatic dolmenoid-cists and the fully concealed (with only the capstone visible) orthostatic dolmenoid-cists respectively. CU 1, CU 2, CUm and C_s represent single urn, double and multiple urns and sarcophagi respectively within a cairn. KT_a is a transcepted cist with ante-chamber.

In Cochin the types are multiple dolmens enclosed by a single circle, port-holed cists, menhirs, topikals, hoodstones single and multiple and rock-cut caves. An appendix describing the monuments of Assam and Chota Nagpur, their nature, origin and usage is also given. The diffe-

rence between the northern and southern megaliths are indicated. A glossary of megalithic terms is also given at the end.

150. KRISHNASWAMI, V.D. and N.R. BANERJEE

"Megalithic monuments of the Chingleput District" in *PISCA* 1948, p. 68.

The region has been divided physiographically into northern lateritic and southern granitic zones. Geology controlled the monuments. Types of monuments found were (i) cairn-circle and (ii) dolmenoid-cists with many variations. Barrows were also noticed. Mutual relationship of the monuments, pottery and other objects found in the graves have been dealt with. The irrigation-complex of the District has also been attributed to the megalith-builders.

151. KRISHNASWAMI, V.D. and B. SARAN.

"Excavations at Kunnattur, District Chingleput" in *IA 1955-56*, p. 23.

Three megaliths-a cairn-circle enclosing a pit, a slab dolmenoid-cist bounded by a stone-circle and a pit covered by a capstone flush with ground-were excavated. These contained the usual megalithic furnishings. The third variety entombed in a pit a sarcophagus. Surface indications are not invariably safe basis for classification of megaliths.

152. KRISHNASWAMI, V.D. and B. SARAN.

"Excavations at Kunnattur, District Chingleput" in *IA 1956-57*,[1] pp. 31-34.

Salient features of the megaliths excavated here are incorporated in brief. On the hill slopes huge giant-size boulders exceeding six feet (1.8 m.) in length were used for the bounding circle in the downward gradient while small boulders or none at all in the upper level.

153. KRISHNASWAMI V.D. and B. SARAN.

"Excavations at Kunnattur, District Chingleput" in *IA 1957-58*, pp. 37-38.

A resume of the work done in the previous years has been given. Brief account of the burial furnishings inside the megalithic burial pits are recounted. A noteworthy feature was that in one megalith (Megalith V) a cairn-circle, three terracotta sarcophagi were found outside the main burial pit but within the bounding stone-circle. Continued excavation in the habitation area brought to light a habitational accumulation of two feet (0.6 m.) contemporaneous with the megalithic burials.

Office of the

154. KRISHNASWAMI, V.D. and K.V. SOUNDARA RAJAN.

"The megalithic problem of Chingleput" in *PISCA* 1949, pp. 172-73.

In majority of the sites both the types, dolmenoid-cists and cairn-circles were available. There were instances where one type only, for example cairn-circles were to be found. In mixed sites, sometimes segregation of monuments were noticed, which in the past formed a basis for determining the sex of the dead and also classifying them into status grouping and Pallava-Chola grouping. The significant monument of the district, the dolmenoid-cist interring legged sarcophagus, and its mutual relationship with the cairns entombing urns has been discussed. The non-megalithic urn burials of Tinnevelly mingled here with the dolmenoid-cist culture, and adopted the megalithic appendage. Existing evidence for dating the megaliths has also been discussed.

155. KRISHNASWAMY, V. D. and K. V. SOUNDRARAJAN.

"Megalithic excavations at Sanur, Chingleput District" in *PISCA* 1957, pp. 189-90.

This is a preliminary report on the megalithic (dolmenoid-cist) burials excavated in 1950. An eastern entrance, morphologically corresponding to port-holes in the cists was observed. Main structural features and the grave furnishings have been given. It has also been observed that only when the other remaining types are excavated definite conclusions regarding chronology, cultural levels etc., can be determined.

156. KURAISHI, M. H.

"Tilota Khairi" in *ARASI* 1928-29, p. 37.

Repairs were carried out to cromlechs at Tilota Khairi (giant's frying pan), Bhandara District.

157. LAL, B. B.

"Excavation at Tumas" in *IA 1961-62*, pp. 67-70.

The cemetery of the C-Group people was to the west of Tumas village and a half a kilometer from the A-Group Afyeh site. One hundred and ninteen graves were excavated; most of them were found disturbed.

Structural features were as under: N. P. An oblong but rounded pit measuring 1.5x2 m. was dug to a depth of 1 to 1.5 m. On the floor was placed the human body in a couched position, slightly turned towards right and was oriented north-west-south-east; with the head towards south-east. Sometimes ornaments *viz.*, necklace, bracelet and anklet,

mostly of steatite were also interred. The body was wrapped in a mat. Under the head was *tibn*-pillow. In one case a stone was observed.

Grave goods consisted of pottery, shapes among which were bowls of all black and black-and-red wares, jar stands of red ware, vases and jars of red ware and a buff to white ware known as Keneh ware. Bowls in black and black-and-red bore fine, sometimes intricate incised designs on the exterior. Often the incisions were filled in with a whitish substance. Of particular interest was a row of human figures (females) in dancing pose. The pots bore graffiti as well. The vessels were found in different levels, at body level towards the feet, brim level of the pit on the head side and more often than not immediately outside the grave, juxtaposed to the stone circle enclosing the pit, mostly again on the head side.

Other items included a quartz-dish with *kohl* marks, carved wooden toy or mirror handle (fragment) and a steatite seal found in the debris overlying a plundered grave.

The pit was filled up with the same material and surrounded and capped by a stone rubble, circular on plan. The height of the rubble was over 50 cm.

Variations in this was a pit, rectangular on plan, lined with stones set in mud and covered with slabs. Another, was twin pit, separated by low earthen wall, enclosed within a single stone circle.

C-Group graves could be assigned to 1500 B.C. with a bias towards the earlier side.

Comparing these with the south Indian graves the author remarks that the bowls of black-and-red ware and jars of red ware are almost identical with those found in the megaliths of south India. Even the graffiti marks bear resemblance. Similarity in structural features are also indicated.

But there is chronological variations between the two. No iron was found in the Nubian graves, while the Peninsular graves are replete with it. In the Nubian graves the whole body was interred. In the south Indian graves the remains are fragmentary. Again spatial gap exists between them.

Any movement of people between such wide apart localities is likely to to take a few centuries. Use of iron might have been learnt by the C-Group people during their course of migration or with the iron-using

people. Inhumation of full body is not altogether unknown in the south Indian megaliths.

Before anything is postulated it would be worth while to explore the intermediary regions of south Arabia and south Iran.

158. LAL, B. B.

"From the megalithic to the Harappa: tracing back the graffiti on the pottery" in *AI,* no. 16 (1962), pp. 4-24.

The symbols have been dealt with under three groups: (i) symbols common to the megalithic and the Harappan and post-Harappan chalcolithic pottery; (ii) symbols exclusive to the megalithic pottery; and (iii) symbols exclusive to the post-Harappan chalcolithic pottery.

Out of sixty-seven symbols forty-seven fall under the first group; six under the second; and eight in the third group. In other words 89·/. symbols can be traced to chalcolithic period.

This commonness may perhaps be due to the commonness of ideas between the cultures. Many traits of the chalcolithic cultures of central India and Deccan can ultimately be connected to the Harappa culture. Linking the chalcolithic culture-traits with the megalithic would be rather difficult. However, some traits like the Black-and-red Ware, the fractional and extended burials are worth considering. Burials at Maski, would, perhaps, fall in the transitional phase.

In conclusion the following main points may be noted:

(i) Symbols occur in habitational strata and burials as well' (ii) No symbol is confined to any particular type of burial. More than one symbol occur in one burial; (iii) Again these are not confined to any particular type or fabric; and (vi) These occur singly or in groupes; and are repeated on the same pot. The group may consist of different symbols and different combinations.

These symbols are neither potter's nor owner's marks. It would be worthwhile to know: (i) whether the number of cluster of pots corresponds to the number of persons buried; (ii) whether the pots in each cluster have the same symbol or if two or more symbols are found, is there any common symbol, etc. This may perhaps lead to establish interrelationship of the symbol and the person.

159. LAL, B.B.

"The only Asian expedition in the threatened Nubia: Work by an

Indian Mission at Afyeh and Tumas" in *The Illustrated London News,* 242, no. 6455, April 20, 1963, pp. 579–581.

The work of the mission has, besides enriching the knowledge on Nubian Stone Age, brought to light evidences bearing upon the cultural relationship between Nubia and south India in the second-first millennium B.C.

One hundred and nineteen graves of the C–Group people were excavated at Tumas. Besides recounting the earlier cultures, a vivid description of the burial pits within cairn circles and the interments inside has also been given. The body was wrapped in a mat-shroud and laid in a contracted position. Fragments of cloth and personal ornaments recovered would lead us believe that the dead body, before being lowered into the grave, was fully clothed and bedecked with ornaments etc. Of particular interest were the twin-pits separated by a thin partition within a common stone–circle. Of the attendant funerary pottery, placed in the pit at the body level and mostly near the head region fringing the stone circle special mention may be made of black-and red ware and red ware ring stands closely similar to those found in the megalithic monuments of peninsular India.

Common to the Nubian and south Indian megalithic burials are (i) bounding circles, (ii) capstones; and (iii) stone lining in the pit (single instance). It may, however, be mentioned that though the date of the south Indian megaliths could be pushed back a little earlier, it is difficult, at the present stage of research, to establish contemporaneity with the Nubian tombs of this group of the second millennium B.C. Furthermore, excepting at Maski, the skeletal remains from megaliths of the peninsular India are as a rule, fractional. The Nubian pits entomb articulated skeletons in contracted position. South Indian monuments belong essentially to the Iron Age, whereas in Nubia this metal is completely absent. But then the ancestral stage of the megalithic black–and–red pottery could be traced to Bahal in the Tapti valley where it is pre-iron.

Concluding the author says, '.... there may be more than meets the eye in the ceramic and structural similarity between south Indian and Nubian examples'. Advocating a thorough investigation of intermediary region of coastal Arabia and Persia, he believes that there is more substance in the theory of an 'Arabian Cultural Pool' formulated by Sir Mortimer recently.

(See also "Nile Excavation–Indian Team's Finds" in *Link*, Indian News Magazine, 51, July 1962, p. 39.).

160. LEMUSIER, H.P.

"Cairns" in *PASB* 1867, p. 164.

Cairns, each containing a perfect cist were discovered. A longitudinal cross section is also given.

161. LESLIE, Forbes.

"On Megalithic Circles" in *RBAST*, 1871, pp. 154-55.

All megalithic circles were not primarily and exclusively sepulchral. They were for religious ceremonies also. In India stone-circles and megalithic monuments were in the past and are at present constructed as places of worship.

162. LEWIS, A.L.

"Notes on the builders and the purpose of megalithic monuments" in *RBAST* 1869, p. 137.

Chain of megalithic monuments are found from India to Britain; Scandinavia and were built, perhaps, on account of a common influence. Whether the Celts influenced Indians or the Indians lent the idea to the Celts or both had a common source of contact has yet to be decided. In India alignments and circles are places of sacrifice; dolmens and table-stones are places of sacrifice and sepulchre; menhirs, land-marks, commemorative pillars and tombstones are in some cases places of worship or sacrifice.

163. LOGAN, W.

"Find of Ancient Pottery in Malabar" in *Ind. Ant.*, VIII (1879), pp. 309-311.

A four-celled rock-cut cave found six and a half miles (8.8 km.) north of Calicut in the Padinayattamuri Desom, Padinayattamuri Amsom, Calicut Taluk and situated in a land known as Chalil Kurinyoli was excavated. Pottery and iron objects, bill hooks etc, charcoal of wood etc., were the finds. Two of the pots contained whitish substance perhaps burnt ashes. Entrances to these caves are comparable with the port-holes of the dolmens.

164. LOGAN, W.

"Religions in *Malabar*, I (1887), pp. 179-83.

Chronological sequence is given as follows:

(i) Megalithic remains — Probably synchronous.
(ii) Excavated sites

(iii) Caves with massive urns (*kuta kallu*) and massive sepulchral urns without caves.

(iv) Modern sepulchral urns of a small size.

Topikallu of doubtful sepulchral character evidently belongs to class (i).

The cave builders took advantage of the easy workability of laterite. Type (iii) monuments were the result of advancement in civilization and religious ideas. *Kutakallu* tombs concealed more advanced types of pots (decorated); beads too were found in them. A social gradation on the basis of shape and size of burial urns and their contents has been postulated. Some urns had circular protuberance at the bottom and a hole drilled in it. Burial was symbolic return of the dead to the Mother Earth and that the protuberance would represent the *os uteri*.

165. LONGHURST, A. H.

"Rock-cut cave Calicut" in *ARASI* 1911-12, pp. 59-60.

A detailed description of a laterite rock-cut cave tomb on the Malaparamba-Chevayur road near Chevayur and the things found inside has been given. This cave had a central pillar. Interesting was the find of an eight legged sarcophagus inside.

166. LONGHURST, A.H.

"Conservation Notes" in *ARASM* 1912-13, pp. 41, 56-57.

1. Gallapalli, District Bellary, Taluk Rayadrug:

   Megalithic cairns and dolmens are described.

2. Kalyandrug, District Anantapur:

   Abounds in prehistoric remains, dolmens (Oblong) and circular cairns.

3. Mudigallu, District Anantapur:

   Prehistoric tombs, stone circles enclosing cists with port-holes were found. Some of them have double bounding circles.

167. LONGHURST, A.H.

"A report on the excavation of certain cairns in the Coimbatore District" in *ARASM* 1913-14, pp. 43-45.

A few cairns were excavated at Sirumugai, about eight miles (12.8 km.) to the north-east of Mettupalayam Railway station. The graves en-

tombed urns containing human bones, pottery, iron objects and beads. In some cairns the side walls of the tomb were cut into the live rock itself resulting in a stone coffin-like container.

168. LONGHURST, A.H.

"A report on the excavation of certain cairns in the Kurnool District" in *ARASM* 1914–15, pp. 39–41.

Cairns and stone-circles were found at Gajjalakonda. The cairns varied from 6 to 26 feet (1.8 to 7.9 m.) in outer diameter. Height was about three feet (0.9 m.). The burials were found in groups.

Digging the largest cairn for a depth of couple of feet (.6 m) revealed slab-capstone covering a rectangular tomb-chamber measuring 10 feet (3 m.) in length, five and a half feet (1.7 m.) the width and seven feet (2.1 m.) in depth. This had an entrance passage on the south side four and a half feet (1.4 m.) in length, one and half feet (.45 m.) wide and three feet (.9 m.) high. The floor and walls of the passage were of slabs, planted firmly in the ground. Beyond the passage the actual chamber was divided into six partitions each containing skeletal remains and pottery. However, no metal implements or jewellery were found. Most of the stones were dressed, perhaps by iron tools. Below this chamber the area was divided into four partitions, each containing skeletal remains and pots. Full skulls or long bones were not available. Nevertheless pieces of skulls and long bones were found in the cairn filling. It would appear that the bones were collected from elsewhere and buried in the tomb. Bones were not calcined. Pots also contained decayed grains. Some pots also contained bone pieces. No datable evidence was found.

The tombs including the passage were filled with earth and stone, and the filling was prior to the placement of capstones. The passage was blocked with a slab on the front and back. Although as a rule, the passage contained nothing, in a single instance an earthen saucer was found.

In another tomb different from above and without partition, a sarcophagus containing fragments of human bones were found. The sarcophagus had a band of finger-tip decorative motif. Of particular interest would be a ladle-shaped pottery from here.

In the third tomb the sarcophagus had no legs but it was found hoisted on ring stands. The fourth burial yielded nothing. The fifth burial, apparently a pit circle covered over with a capstone contained two legged sarcophagi and attendant pottery.

The author observes, "The nature of the constuction of the tombs, the similarity between the sarcophagi and pots found in each tomb, seem to indicate that all these graves belong to about the same period and were set up by the same race of people".

199. MCS

"Antiquities of Mamandur in North Arcot District" in *MJLS*, XXV (1897), pp. 36–42.

The ordinary dolmen was built. of six flat stones to form a cubical chamber. The eastern wall had a circular opening of about eighteen inches (45 cm.) in diameter. The stones were not shaped. These dolmens have been attributed to the Pandavas. The Kurumba shepherds still erect dolmens of a smaller size in honour of their dead chief; though not on the spot where the body is buried.

170. MACKENZIE, J. S. F.

"On the rude stone archaeology of the Hassan District, Maisur" in *Ind. Ant*., II (1873), pp. 7-10.

The need for a correct nomenclature for the rude stone monuments is emphasised. Barrows, Tumuli, circles, cromlechs, Dolmens, cairns, Kistvaens and Menhirs are defined. In the Hassan District Barrows, dolmens and Tumuli seemed to be non megalithic and devoid of any finds. Cromlechs were not found. Menhirs appeared to be hero-stones. Only circles (near Fraserpet) are the true megalithic burials entombing underground chamber (kistvaen of the author). Pots of all kinds, pieces of iron instruments and bones and a black substance suspected to be charcoal were found. Most interesting is the find by the author of one stone arrowhead or spear head in one such grave. He is of the opinion that cairns were the graves of persons killed by tigers or those who died of leprosy.

171. MAHADEVAN, C.

"Geology of the south and south–western part of Surapur Taluk of Gulburga District" in *JHGS*, IV pat 1 (1941), pp. 157–60.

A list of places where stone alignments, stone–circles and dolmens have been found is given.

172. MAHALINGAM, T. V.

"Excavations in District Chingleput and North Arcot" in *IA 1967–68*, pp. 25–26.

Urn-burials at Takkolam, District North Arcot and a stone-circle at Kunnavakkam, District Chingleput were discovered.

173. MAURICE PHILLIPS.

"Tumuli in the Salem District" in *Ind. Ant.*, II (1873), pp. 223-28.

This is a dissertation on the burial monuments of Salem District. These have been classified according to their contents and structural details. The finds inside the burials, such as pottery, iron implements, human bones and ornaments were similar to those found elsewhere in similar tombs. After detailed discussion he has arrived at a terminal date of thirteenth century for these tombs in India. He has further attributed these to the non-Aryan aboriginal inhabitants of the south and now represented by the Dravidians.

174, MENON, Chandrasekhara, K.

"Exploration in District Kottayam" in *IA 1963-64*, p. 13.

Megalithic monuments of the following types at the places indicated against each type were discovered:

Menhirs of laterite: Tirunakkara

Menhirs of granite: Athirampuzha

Cairn circles: Athirampuzha

Dolmens: Kanakari and Kuruvilangad.

175. MENON, Govinda K.

"Red painted pottery from Cochin State" in *Man* XXXVII (1937), Art. no. 179.

Among other things a few painted pots were also found inside a dolmen at Tiruvilvamala. The designs consisted of wavy lines, loop-coils, etc. The pigment used was usually white and must have been executed while the pots were wet over which a slip was applied before firing. A bronze bowl was also obtained from the grave.

176. MITRA, P.

"The Indian Megaliths-their origin and chronology" in *PASB* 1921, p. ccxlvii.

Professor Elliot Smith holds the view that the megaliths had their beginning in the proto-Dynastic Egypt from where it spread to other places. Walhouse and others advocate a western origin. Recent study of Long-

hurst favours an Egyptian-like culture which produced megaliths in the Deccan.

Various types of Indian megaliths with a concentration on the southern seaboard and the survival of megalithism among the tribes in the Dravidian tracts in India would indicate an Indo-Erythrean culture-complex, beginning in the times of pre-proto-Dynastic Egypt and surviving to the day of Dravidian domination when there was contact between India, Egypt and possibly central Asia also between 1000–300 B.C.

177. MUKHERJEE, S. K.

"Megaliths, Nagpur" in *IA 1961–62*, p. 101.

Stone-circles at a place locally known as Seminar Hills were discovered.

178. MULHERN, J.

"Cromlechs of Central India" in *PASB* 1868, pp. 116–18.

On either banks of the Godavari near Albaka and in the low ridges west of the canal above Dumagadium cromlechs were seen. Crosses were found at Malur and Katapur.

179. MUNN, Leonard

"Prehistoric and Protohistoric finds of the Raichur and Shorapur Districts of H E. the Nizam's Dominions" in *MI*, XV (1935), pp. 225–50.

Ancient remains such as palaeoliths, neoliths, ash mounds, etc., in the Raichur and Shorapur Districts have been dealt with. Burials–single double or treble stone circles with or without underground cists have been assigned to late neolithic and early Iron Age while rough stone dolmens with hammer-dressed side-stones built in *svastika* pattern, stone alignments and mounds have been assigned to Iron Age.

180. MURRAY-AYNSLEY, H. G. M.

"Some hints on looking for megalithic monument and stone implements in India" in *Ind. Ant.*, XV (1886), pp. 316–17.

Giving the types of megalithic monuments important details to be observed in their search *viz.*, orientation of chambers and cists, vestiges of covering mound, search for cup-marks, exact location, finds inside the tomb, etc., have been indicated. If possible plans, sections and elevations of the monument should also be prepared.

181. MURTHY, Krishna, L. S.

"Geology of parts of Mahabubnagar and Gulburga Districts" in *JHGS*, IV pt. 1 (1941), pp. 85-87.

Places of occurrence of stone-circles and alignments have been given. A local legend as to how the villagers who cheated and teased an old woman were petrified through her curse and that these stone circles and alignments represented the villagers and their cattle, has also been mentioned.

182. MURTHY, M.L.K.

"Exploration in District Chittoor" in *IA 1962–63*, p. 1.

On the hillocks known as Basinikonda at Ellampalle and Madankonda near Madanapalle, dolmens were discovered. These are locally known as *pandava-gullu.*

183. MYRES, J. L.

"Prehistoric archaeology and Ethnology in Southern India" in *Man*, XXX (1930), Art. no. 133.

With the formation of the Indian Research Committee of the Royal Anthropological Institute in 1924 scholars have been brought into personal converse and a survey of Museum and private collections are afoot; so also publication of privately conducted research. Special committees report on beads, palaeolithic implements, undated Iron Age burials etc. Results have been published in the Indian Antiquary.

184. NARAIN, A. K. and P. C. PANT

"Excavation of Banimilia-Bahera, District Mirzapur" in *IA 1962-63*, pp. 38–39.

Megaliths were found between the villages Banimilia and Bahera. Types noticed were: (i) cairns, made up of a heaped stone rubble topped by single or multiple capstones; (ii) cists, enclosed by a cairn, neither port-hole nor capstone was observed; (iii) cairn-circles; and (iv) tumulus (chamber type) concealing rectangular or occasionally semi-circular chamber constructed with dressed stones with single or multiple capstones and enclosed by a heap of stone rubble, mixed with mortar and at times covering the capstone even.

Five megaliths, three of (iv) and one each of (i) and (ii) were excavated. Pottery from these burials consisted of (a) ill-fired red ware, occasionally with a red slip; (b) over-fired red ware; and (c) black slipped ware; and (d) black-and-red ware. Only one megalith (meg. iv) did yield a few fragmentary bones. Longer axis of the cist and chambers was east-west; the chambers being broader on the west than on the east.

Details of the excavated megaliths are as follows:

Meg. I (type iv) enclosed a semi-circular chamber and yielded black-slipped and dull red wares;

Meg. II (type i) yielded only a few dull red sherds.

Meg. III (type *iv*): A layer of pebble mixed with mud was found below the chamber. The eastern orthostat was a single slab supported by two courses ot stone masonry. Contents were dull-red pottery.

Meg. IV (type iv) had the largest chamber measuring 2.54 x 0.67 m. Besides, sherds of dull red, overfired red and black and-red wares, a few bone fragments were also found.

Meg. V (type ii): The cist here was constructed directly upon the rock-surface. The northern and southern orthostates comprised two upright slabs on each side while on the other sides single slabs had been used. Contents were dull-red pottery.

Excavation of the habitation area yielded ill-fired dull-red, over-fired red, black slipped and black-and-red wares.

185. NARASIMAIAH, B.

"Exploration in Districts North Arcot and Salem" in *IA 1964-65*, p. 22.

A megalithic habitation site at the foot of the hill near Kottur and a burial site at Pachur in District North Arcot were discovered. In District Salem megalithic sites were found at Chinnakottur, Dinnakottur, Gengaleri, Jeyannur, Nerelagiri, Oblespalli and Tippanapalli.

186. NARASIMAIAH, B.

"Exploration in District Shimoga" in *IA 1964-65*, p. 32.

Menhirs were noticed at Nilsukal.

187. NARASIMHAYYA, B.

"Exploration in District Dharmapuri" in *IA 1967-68*, p. 26.

Various types of megaliths in the district were found; the types and sites are as under:

Port-holed cists: Doddamanchi, Dodda Timmanahalli (Dudiavanpalli), Gummanur, Kottur, Nammandahalli, Natarapalaiyam, Paleyur, Sengoda-chennanahalli (Sonninayakkanhalli), Suligunta and Timijepalli.

Cairn-packed cists with stone circles: Doddamanchi, Gunduvalam Kurumbanahalli, Natarapalaiyam and Ratnagiri.

Dolmenoid-cists with circle stones: Bettamugalalam Bilalam, Gangadevanahalli, Kanavanapalli, Kundukottai, Mallikarjunadurgam, Manchugondupalli, Mariyalam, Palaiyamkottai, Puram and Tottikuppam.

188. NARAYANA BABU, P.

"Exploration in District Bijapur" in *IA 1961-62*, p. 34.

Stone circles at Budhihal and Khilarhatti were discovered.

189. NAYAR, T. B.

"A Corpus of Indian Pottery" in *Man*, XXXI (1931), Art. no. 135.

The pottery dealt with are from the Indian megatithic burials. Main observations are:

(i) Pottery of the hill types are different from other graves. They are coarse, tall and baluster in form. Firing is imperfect. Decorations include impressed marks and moulded bands.

(ii) Those from urns, sarcophagi and stone cists or kistvaens exhibit unity in shape and technique. They are wheel thrown, round based and devoid of handle. Decoration, if any, is confined to neck and shoulder with impressed dots or incised bands. Very little decorat.on is applied to the bright and shining surface. Colour of pottery is grey, buff, red and black. Red colour is due to red ochre wash before firing.

Shapes include bowls, dishes, ring stands and jar-covers.

190. NEWBOLD,

"Ancient sepulchres of Panduvaram Dewal in Southern India" in *JRAS*, XIII (1851), pp. 90-95.

The place is three and a half miles (5.6 km.) east north-east of Chittoor in District North Arcot. Three cists were excavated which have been described in detail. The usual port-hole was present in the north-eastern slab. The cists entombed legged sarcophagi, iron implements *viz.*, spear-heads, and pots. The absence of vestiges of habitation lead the author to believe that either the sepulchres were of high antiquity or the people who built them were nomads. Absence of sculptures or inscriptions indicated that these people were not well advanced in civilization though they could make fine pottery. These monuments were not of Buddhistic or *Jaina* or Brahmin origin. They resembled the Druidic circles and cairns. Monuments similar in architecture and contents have been found in the mountains of circassia and the vast plains of Tartary, and Northern Europe. These belonged to one family of human race speaking one language who migrated in course of time from a given centre.

191. NUMA-LAFFITTE

"A note on certain signs inscribed on pottery found in ancient funeral urns in South India" in *Ind. Ant.*, LX (1931), pp. 137-38.

On some of the pottery from an urn-field around Pondicherry a few scratched signs were observed. These were engraved in the thickness of the coating only. Twenty-seven signs were observed. It was believed to be potter's marks, or those of the deceased themselves. But when he found that similar ones also occurred on the opposite coast as well he felt his inference might be wrong and has advocated fresh research. They may perhaps be auspicious or religious signs.

192. OLDHAM, *T et al.*

"Remarks on R. A. Cole's note on cromlechs in the vicinity of Veerajendrapet" in *PASB* 1869, pp. 186-87.

1. Pots recovered from the cromlechs differed from the ones used in the modern times; the main differences being in thickness and high glaze.

2. Considering the fact that iron gets rusted quickly a late date has to be assigned. It would also indicate an advanced knowledge of metallurgy.

Mr. Phears said that all excepting two shapes could be found among the pottery used in modern times. The exception may be due to the advanced state of ceramic art of the cromlech-builders.

193. PANCHAMUKHI, R. S.

"Dolmens and cairns of Karnataka" in *JBU*, XIV pt. iv (1946), pp. 10-28.

Several aspects of megalithic burials have been discussed. Deccan and southern India wer the homes of the dolmen-builders. The Kannada, Telugu and Tamil speaking people were racially allied to the Australians and Egyptians and that either of them must have borrowed the tomb-building practices from the other.

Dolmens constructed of huge unhewn boulders are of the Palaeolithic culture while the slender flat-slabbed ones later in age. Some dolmens were of the Vedic age (1200—1000 B.C.). Dolmens were the dwellings of royal personages who took to *vanaprastasrma* in their declining age and their remains were either buried or burnt in the cells. A careful study of the marks on pottery would reveal a clue to the origin of the Brahmi script.

(see also *PISCA* 1945, p. 53).

194. PARAMASIVAN, S.

"Adichanallur Bronze" in *PISCA* 1933, p. 413.

The author chemically analysing the specimens has discussed the possible sources of the constituents of the bronze and has suggested relationship with other countries.

195. PHYRE, Arthur

"Note on a circle of stones situated in the District of Esuoofzye" in *JASB*, XXXIX (1870), pp. 58–59.

A circle of tall upright stone fifty feet (15.2 m) in diameter and about fifteen miles (24 km.) east of Murdan, near a place called Sungbutte has been described. The megalithic character of this is extremely doubtful.

196. PLENDERLEITH, H. J.

"Black polished pottery from urn burials in the Wyanaad" in *Man*, XXX (1930), Art, no. 138.

Chemical analysis and quantitative data for the glaze in the black polished pottery from Wyanaad have been given. Black colouring clay has been applied to the pottery in the form of an alkaline slip acting as a flux in high temperatures. The fired vessels were subjected to polishing.

197. RAGHAVACHARI, K.

"Neolithic site, Pusalpadu, District Kurnool" in *IA 1962–63*, p. 67.

Noticed megalithic burials. The site was further explored by Venkataramayya and I. K. Sharma.

198. RAGHAVAN, M. D.

"South Indian Neolithic culture" in *CS*, I (1932), pp. 63–66.

In South India Iron Age succeeded the neolithic culture. The magalithic culture was an advanced iron-using civilization. The graves exhibited evidence of high social organization and a well developed religious cult.

199. RAGHAVAN, M. D.

"The Gourd form in Pottery" in *Man*, XXXV (1935), Art. no. 165.

The technique of manufacture of pottery by moulding over a gourd and cutting into halves while yet wet and again joining the halves has been described in detail. The pot has also an opening. Foote is of the opinion that these vessels served as seed-boxes while the

author feels that these were meant for storage of grains for every-day use.

200. RAGHAVAN, M.D.

"A ram shaped sarcophagus from Cuddapah" *CS*, IV (1935), pp. 306-307.

A ram-shaped sarcophagus from a small village two miles (3.2 km.) north of the town Porumanilla in Taluk Badvel, District Cuddapah, has been described in detail. Certain animals came to be regarded as embodiments of souls of the dead and the ram often served as one such soul-animal. The sheep played a prominant rôle with all the pastoral peoples and it was the chosen animal to bear all the sins and evils of mankind just as the goat was among the jews.

The ram, as the soul-animal, acted as a means of transport of the dead soul to the world of the spirits. The decorative trappings suggest a caprisoned animal ready for its onward journey. Entombing bones in such a container would, perhaps, suggest an invocation to the veritable god for the soul to be born again and again on earth.

201. RAGHAVAN, M. D.

"The rock cut caves of Malabar" in *Dr. Krishnaswami Aiyangar Commemoration volume* (1936), pp. 384-89.

Caves scooped out of the lateritic soil at Panunda and Punnol (Chelleth cave) have been discussed. In the former a spear, a grind stone and iron objects were found. Excavation of the Chelleth cave yielded pottery. A four-legged, round and narrow bottomed vessel is worth mentioning. Some of the pottery were painted with decorative designs and geometrical bands in monochrome. Pigment was black and painted after firing. Colour was some form of carbon unmixed with any colour. Five iron objects, one resembling a conventionalized human figure were obtained. The bowl containing bones was covered with a ring-knobbed lid.

The author has also described at length the method of construction of these caves. The pillar in the centre was for the stability of the structure. He has agreed with Logan in that these caves were constructed by a people before the intrusive Vedic Brahminic culture. He has also recounted a local legend regarding these being used for residential purposes.

202. RAGHUNATH, S. N.

"Megalithic and early historical sites, District Nalgonda" in *IA 1961-62*, p. 96.

Cairn circles were noticed at Karlapahad and Gangasanpalli.

203. RAJU, K. V.

RASMP, Fazli 1344 (1934-35), pp. 2-3.

A short account of the results of the excavations of megaliths at Sittannavasal, Arnipatti, Surandapatti, Tachampatti and Thodayur has been incorporated.

The interments were urn and cist burials. Cists are cells formed of stone slabs buried in the ground. Transcepted cists were also observed. Method of construction of these cists has also been recounted. Grave goods consisted of pottery and iron weapons. There were no traces of human bones in any of the tombs. All the vessels contained sand mixed with lime. A stone ball, probably a sling ball was also recovered.

204. RAJU, K. V.

"Archaeology" in *RASMP*, Fazli 1347 (1937-38), pp. 3-4.

A gist of the results of the excavation of burials at Kaliyapatti and Kalakkudipatti is given. All these were cists. No trace of human bones was found. The objects recovered were acquired for the Museum.

205. RAMACHANDRAN, K. S.

"Megalithic sites in Madras State, Vaigai Basin" in *IA 1956-57*, p. 80.

Urn burial sites without megalithic appendage were discovered at Samanattam, Palangunattam, Old Vilangudi and Paravai.

Stone-circles were found at Kundalnayakenpatti, District Madurai.

206. RAMACHANDRAN, K. S.

"Bridle bits from Indian Megaliths" in *QJMS*, LI (1961), pp. 170-72.

Horse-bits obtained from the excavated megalithic burials in India are classified and described. Parallels from elsewhere are also cited.

207. RAMACHANDRAN, K. S.

"Megaliths, Nagpur" in *IA 1961-62*, p. 101.

Stone circles were noticed at Nagalwadi, Sangam, Sukli, Takli and Wanadongri.

208. RAMAN, K. V.

"Exploration in District Madurai" in *IA 1958-59*, p. 32.

Cairn circles at Periyur and Gopalapuram; dolmens at Mallapuram; and urn burials at Sangapadai, Tangalacheri, Madipannur, Sivarakkottai, Kottaimedu, Amattiapatti, Periakattalai, Vandarai, Parappatti, Tirumanikkam, T. Kallupatti and Valambur were discovered.

Etched carnelian beads were found in a disturbed urn at Sangapadai.

209. RAMAN, K. V.

"Exploration in District Madurai" in *IA 1960-61*, pp. 18-19.

At Virachinnammalpuram, apart from the usual cairn circles with bounding, stones placed in a circular fashion, monuments with bounding stones forming an oblong pattern were also noticed.

Urn burials were noticed at Chenampatti, Kuraiyur, Krisalkalampatti. Pudur, and Kottaipatti, all in Periyakulam Taluk. Cists were observed at Muanandipatti.

Habitational vestiges at Pudur and Salippapillaiyarnattam were also noticed.

210. RAMAN, K. V.

"Urn burial site, District South Arcot" in *IA 2960-61*, p. 63.

The urn burial site at Nachchiarpettimedu was an extensive one.

211. RAMAN, K. V.

"Exploration in District Thanjavur" in *IA 1961-62*, pp. 26-27.

Urn burials were noticed at Kilperumpallam, Manigramam, Viramethiruppu, Vanagiri and near Pattisvaram.

212. RAMAVARMA

"Sepulchral urns in the District Coimbatore" in *Ind. Ant.*, VII (1887), pp. 26-27.

Urns similar to the Tirunelveli ones occur in the Coimbatore District. These urns were found interred in cist surrounded by stone circles and contain bones and spear-or arrow-heads of iron. These chest-like chambers with circular openings were habitations of a pygmy race.

213. RAO, Gururaja B. K.

"Urn burial in District Madurai" in *IA 1958-59*, p. 71.

Extensive urn burial site was found at Gopalasamiparamba.

214. RAO, Gururaja B.K.

"Urn burial and Historical site in District South Arcot" in *IA 1958-59*, p. 71.

Megalithic burials with pyriform urns were found at Porearkoil near Perumalnaikenpalayam. Tulukenveli near Melpattambakkam and Nattamedu near Pagandai has also been reported.

215. RAO, Gururaja B.K.

"Megalithic site in District Chitaldrug" in *IA 1959-60*, p. 73.

A cist bounded by a stone circle and in a disturbed condition was found on a laterite debris.

216. RAO, Gururaja, B. K. and K. V. RAMAN

"Exploration in District Madurai" in *IA 1957-58*, p. 38.

Urn burials were discovered at Thatanodimedu near Bodinayakanur, Sengulam, Vedarpuliyangulam, Malakuyilkudi, Palangunattam, Paravai, Samayanallur, Vilangudi, Tenur, Podumba sikandar chavadi and Nagarmalai-Pudukkottai. Cairns and dolmens were observed at Nagarmalai-Pudukkottai and Alampatti.

217. RAO, Nagaraja, M. S.

"Exploration in District Dharwar" in *IA 1958-59*, p. 32.

Megalithic stone circles were discovered at Bidarkatti, Sidenur, Chinnikatti, Kerwadi and Udgatti. Dolmens were noticed at Kadarmandalgi.

218. RAO, Nagaraja M. S.

"Exploration in District Dharwar" in *IA 1959–60*, pp. 37–38.

Stone circles were noticed at Budapanahalli, Asundi, Kushur, Kotihal and Malkanhalli.

219. RAO, Nagaraja M. S.

"Exploration in Dharwar District" in *IA 1960-61*, p. 28.

Stone circles were found at Malkanhalli, Kamdod, Hosur, Jangad and Belgatti while at Bellati a dolmen was observed.

220. RAO, Nagaraja M.S.

"Exploration in District Dharwar" in *IA 1961-62*, p. 34.

Cists enclosed in circles were discovered at Adrahalli, Devihal and Sogival.

221. RAO, Nagaraja M. S.

"Exploration in Districts Bellary, Bijapur, Dharwar and Raichur" in *IA 1962-63*, pp. 16-17.

Cairn circles were found at Hallur and Sanapur in Raichur District. At Sanapur passage was noticed in front of the stone circles. Megalithic monuments were also discovered at Bhaira, Hallur, Nagavada, Tadakanhalli and Vanavada in Bijapur District.

222. RAO, Nagaraja M. S.

"Archaeological Remains of Dharwar District–A Review" in *JAS (Bom.)*, (NS) 38 (1963), pp. 154-64.

Archaeological remains in the district fall under the following broad categories: (i) prehistoric remains; (ii) chalcolithic remains; (iii) megalithic remains; (iv) early historical remains, etc.

Megaliths are known by the terms *Pandavara katte* (platforms of the Pandavas), *Siddharkatte* (platforms of the siddhas), *moreara angadi* (shops of the Mauryas), etc. *Pandavarakatte* recalls the Tamil *pandukulis.*

Types met with are dolmens, stone-circles and cairns. Most common type is the cist-circles.

223. RAO, Nagaraja M.S.

"Excavation at Hallur, District Dharwar" in *IA 1964-65*, pp.

Excavations revealed three periods: (l) lower neolithic, free from metal and microliths; (ii) upper neolithic showing the intrusion of the chalcolithic elements; and (iii) the overlapped phase of neolithic-megalithic.

The overlapped phase showed the sudden emergence of Black-and-red ware including the one with the white painted decoration, and iron objects such as arrow-heads, spear-heads, etc. Neolithic stone tools and pottery, however, continued.

224. RAO, Rama B.

"Observations on some of the megalithic monuments in the vicinities of Halgur and Chennapatna, Mysore State" in *PISCA* 1926, p. 262.

The monuments have been classified as follows :

(i) Cromlechs or sepulchral monuments of stone circles; (ii) Viragals and mastikals; and (iii) Devakals, monuments of siva worship.

All of them were of high antiquity. The first belonged to the Iron Age and later, Devakal monuments of siva worship came next and last of all the Virakals, belonging to a much later period.

225. RAO, S. R.

"Stone tools and Megaliths, District Nagpur" in *IA 1959-60.* p. 72.

Stone circles and Tumuli without any visible megalithic appendage were discovered near the village Durgama (Drug Daman) on the Nagpur-Amaroti road. The site falls within the limits of the village Devalmatti.

226. RAO, S. R.

" Excavation at Paiyampalli, District North Arcot " in *IA 1964-65*, pp. 22-23.

The purpose of the excavation was to determine the extent of time lag, if any, between the end of the neolithic occupation and the beginning of the megalithic settlement.

In one of the cuttings the neolithic culture was found to overlap the early levels of the megalithic.

Period II represented the megalithic culture ; the cultural deposit being 1.5 – 2 m. in thickness. Four successive floors, three of which were of lime or chunam and one of red earth were encountered. Judging from the post-holes the houses were either circular or rectangular on plan. Finds included objects of iron such as knives, sickles and nails ; terracotta figurines of birds and animals ; bangles of opaque glass and shell ; and beads of semi-precious stones, some of them being etched. Pottery consisted of Black-and-red, red and pink wares, besides, a coarse red variety. Russet coated Painted Pottery came late. Charred grains indicated the use of gram *(khulti)* green gram and cereals resembling *ragi.*

Several stone-circles were seen at the foot of the hill.

227. RAO, S. R.

"Excavations at Paiyampalli, District North Arcot" in *IA 1967-68*, pp. 26-30.

Excavations were continued in order, among other things, to obtain: (i) more information about the dwellings in both the neolithic and megalithic Periods; (ii) to ascertain the mode of disposal of the dead; and (iii) to know whether there was any time-lag between the two periods.

In the megalithic levels three successive floors with post-holes were encountered. From the disposition of the post-holes it could be judged that the huts were generally circular, oval or oblong on plan. The circular ones varied in diameter between 1.5 - 3 m. while the rectangular ones from 1.7 m. - 4 m. in length. Floors were made of stone chips covered with *muram* and invariably plastered over with lime. Occasionally the houses were rubble-found. Normally the houses were single-roomed. However, an instance of a double-roomed house was noticed. Periphery of the houses had a rubble-flooring.

Conical objects of terracotta arranged in groups of three would signify some ritualistic utility.

Pottery consisted, besides the usual megalithic wares, of a thin coarse red ware painted on the exterior in chocolate or light brown and was found abundantly in the habitation area. The design repertoire comprised symbolic representation of human and plant figures. Shapes were bowls, tulip-shaped vessels, jars in Black-and-red Ware; funnel shaped lids in all black ware; and tall three legged vases, pyriform storage jars in red ware. In decorating pottery incision, *applique* and stamping techniques were adopted. Designs included nail-and-finger tip palm-leaf patterns, wavy lines and triagnular notches. Occasionally stamped leaf-designs was also noticed. Evidence for iron smelting was also available. Tools in this metal consisted of sickles, spears, chisels, nails and axes.

Personal ornaments found were bangles of glass and terracotta, beads of glass, crystal and terracotta and ear ornaments. A goldsmith's stone mould was also found. Interesting was a terracotta lamp, circular in shape having eight lips for wicks.

Megaliths were noticed in the 'U' shaped valley between the two hills, Talattappa malai and Vontigudda. Three megaliths were excavated and their details are as follows:

Meg. 1. A cairn-circle with its external diameter 6.3. m., concealed a stone-lined ovoid pit, 50 cm. in depth. On the floor a thin layer of greyish earth with lime speckles was spread, over which were placed the grave goods *viz.*, pottery, bones, and iron objects. Except for a few extant stone lining the pit no other lithic appendage was noticed. Skeletal remains were found in a disarticulated state and belonged to two persons. A three legged jar was also noticed. Other finds were an iron arrow-head, a fragment of a spear-head and a terracotta bead.

Meg. 2. was a completely disturbed monument.

Meg. 3 was a cairn-circle found erected on an artificial mound over an elevated ground. External diameter was 8.2 m. The grave pit measured 3.2, and was 0.3 m. deep. Inside the stone-lined pit was a terracotta sarcophagus with twenty-four legs. The sarcophagus contained disarticulated bones. Eighteen iron arrow-heads and pots were placed around the sarcophagus. The pit was closed by a rubble packing. The disturbed condition of the stone-lined pit and the absence of lid of the sarcophagus indicated that the burial was disturbed immediately after the interment. Pottery included large dishes of the all black ware and jars and bowls in Black-and-red Ware.

Besides, the burials also yielded a thick coarse red ware, often decorated with incised and applique designs. Types in this ware were ring-stand, vessels with collared or beaded rims, conical vases with pointed bases and jars with excurved rims. Shapes in the Black-and-red Ware included tulip-shaped vases or basins, bowls with a bevelled rim, shallow dish conical vase. Funnel shaped lid was the only shape in all black ware.

On C 14 determination of charcoal sample Period II could be dated to 315 $\pm$ 100 B.C.

228. RAO, S. R.

"Exploration in District Kolar" in *IA 1967-68*, pp. 37-39.

Neolithic-megalithic sites at Banahalli, 2 km. from Tekal railway station, Dodda Kadattur, Kendatti and Tekal were discovered. Megalithic monuments were noticed at a site 11 km. from Hosokote on the Hosokote-Malur road, Kendatti and Tekal.

229. REA, A.

"Some prehistoric Burial Places in Southern India" in *JASB*, LVII (1888), pp. 48-71.

Burials at Pallavaram, Perianattam, Dadampatti, Paravai, Anupanadi and the megalithic remains near Kodaikanal have been dealt.

Pallavaram burials belong to the Pallavas. Remains outside the Pallava territory belonged to different races.

Differences in the arrangement or plurality of the method of disposal of the dead may be due to the different castes or sections of the tribes.

Female was buried in oblong tombs (coffins) in horizontal position while the male was buried in round ones in sitting posture.

Contents of the tombs were the usual megalithic furnishings.

Megaliths at Perianattam, Dadampatti, Paravai, Anupanadi and Palni Hills have been classified and described.

Megaliths are widespread throughout the world and are, perhaps the work of a race having some connexion with each other. In India megaliths and earthen ware receptacles for interments are common and must have been contemporary. Burial in jars could have been possible only in a sitting posture. Similar jars and similar customs of burial are prevalent in the present day Africa.

230. REA, A.

"Adichchanallur Excavations" in *ARASMC* 1902–03, pp. 11-14.

An illustrated descriptive report is given of the finds, *viz.*, gold diadems (with parallels from Mycenae) bronze vessels, iron objects and pottery inside burials excavated at Adichchanallur, Tirunelveli District.

231. REA, A.

"Prehistoric Antiquities in Tinnevelly" in *ARASI* 1902-03, pp. 111-143.

A list of thirty-five burial sites discovered during an exploratory survey in the District has been given. Important among them is Adittanallur (Adichchanallur) which was subsequently excavated. A very detailed account of the excavation of the urn burials, including the location of the site, contents inside the urn, objects in metal, bronze ornamental lids, bronze bell-mouthed jars or *chattis* bronze plaques, bangles, carnelian beads, ear ornaments, iron swords and daggers, arrows etc., has been incorporated. Some urns contained complete skeletons in a flexed position. Important among the finds were the gold diadems.

232. REA, A.

"Kilnattam" in *ARASMC* 1903-04, pp. 23-25.

The site is situated at the base of a hill to the north-east of Palamcottah (Palayamkottai) at a distance of three miles (4.8 km.). Several urns were excavated and both inside and outside the urns were found bronze and iron objects, skeletal remains, and pottery, all of the usual megalithic culture. Of particular interest would be an iron saucer lamp, a gold bead and a concave pottery-lid with looped handle in the central concavity. A full skull (illustrated) was also found.

233. REA, A.

"Tindivanam" in *ARASMC* 1903-04, pp. 54-55.

Remains of dolmens, near Varikal in the village of Sittamudi were seen. Excavation of one yielded only pottery. Similar remains were found at Amayeri and Thandavasamudram in Villupuram Taluk near Varikal.

234. REA, A.

"Prehistoric pottery from Tinnevelly" in *ARASI* 1903-04, pp. 158-59.

Pottery from the urn burials of Tirunelveli consisted of red, black and Black-and-red wares. Texture was thin and well made. Very rare insstance of painting consisting of dotted slanting lines occur from the rim. Urn was thick and coarse and red in colour. Decoration, if any, was thumb marks.

235. REA, A.

"Excavation" in *ARASMC* 1906-07, p. 2.

Excavation of a few burial monuments around the Trisulam Hills near Pallavaram yielded sarcophagi, three to seven feet (0.9 to 2.1 m.) long and pottery in numbers.

236. REA, A.

"Perumbair" in *ARASMC* 1907-08, p. 3.

Further excavations of cromlechs yielded legged sarcophagi, pots and bone remains. Interesting was the find of three legged jars.

237. REA, A.

"Excavation at Amaravati" in *ARASI* 1908-09, p. 90.

In the proximity of the foundation of a small *stupa* adjacent to the main *stupa*, seventeen megalithic urns were found. These were partially under the *stupa*. Pots obtained from here resembled those from Perumbair.

238. REA, A.

"Prehistoric remains at Perumbair" in *ARASI* 1908 09, pp. 92-97.

A brief account of the excavation of several burials and their contents has been given. Interesting finds were, a terracotta sarcophagus without legs and decorated shell ear ornaments, pendants beads, etc. The burial equipment consisted, besides bones, the usual megalithic pots and iron weapons.

239. REA, A.

"Excavation : Prehistoric caves, Perungulam", and "Excavation : Ancient remains, Kaniyampundi" in *ARASM* 1010–11, pp. 10-13.

A multi-chambered rock-cut (laterite) cave at Perungulam, eight miles (12.8 km.) south-east of Tellicherry railway station was excavated. The contents of the cave, besides skeletal remains were the usual megalithic grave furnishings *viz.*, pots, iron objects, etc.

Kaniyampundi is situated two miles (3 km.) to the east of Mangalam railway station. Excavation of urns buried under a mound in which besides, pieces of bones, pottery and occasional iron implements were found.

240. REA, A.

Catalogue of the Prehistoric Antiquities from Adichanallur and Perumbair (Madras, 1915), pp. 1-49.

The catalogue is divided into two parts site-wise.

Adichanallur is situated twelve miles (17.7 km.) south-east of Tirunelveli town on the southern bank of the Tambraparni river. Burials are observed on the highland waste unsuited for cultivation. Cemeteries were noticed on the southern side of habitation.

Objects were seen both inside and outside the urns. Traces of cloth were found sticking to some bronze objects. The rarity of bronze objects and their use as personal ornaments is noteworthy and would indicate their scarceness and consequent high value.

A descriptive list of six hundred and sixteen objects including gold, bronze, iron, stone, pottery and bone have been given.

At Perumbair burials situated on rocky high ground were excavated at intervals from 1904 to 1908. The burials enclosed sarcophagi, urns, pottery, iron implements, personal ornaments of shell etc. A comprehensive list of one hundred and seventy-five objects found in the burials has

been incorporated.

241. REDDY, Ramakrishna, A.

"Bowls from Ur and the Nilgiris" in *Man*, XXXI (1931), Art. no. 202.

The bronze bowl from Nilgiris (cf. plates x–xii of Bruce Foot's *Catalogue of Prehistoric Antiquities in the Madras Museum*; and plates XLI and XLII of Breeks' *An account of the primitive tribes and the monuments of the Nilgiris)* has been compared with a gold bowl found in Ur by Sir L. Wolley (cf. *The Illustrated London News*, 17th December, 1927) and has suggested some phylogenetic connexion between the two vessels.

242. REDDY, Ramakrishna, A.

"Prehistoric burials in Pallavaram" in *PISCA* 1945, p. 53.

Sarcophagi, iron objects (oxidized) such as trident, sickle, spear-head, etc., were found in a burial on a hill-slope in Trisulam village near Palla varam. Urns were found deposited in pits scooped out in the bed-rock wherever necessary.

243. RICHARDS, F. J.

"Note on some Iron Age Graves in the North Arcot District, South India" in *JRAI*, 54 (1924), pp. 157–65.

Results of the excavation of three burials at Odugattur (Revenue village Madaiyapattu) some eighteen miles (28.9 km.) away from Vellur (Vellore) have been given. Diameter of the circles excavated varied from thirty-four to fifty-six feet (10·3 to 17 m.). Contents were the usual megalithic interments but special mention could be made of the following:

(i) a number of decorated (incised) chank–shell ornaments; (ii) iron plates with conical copper discs (rivets); and (iii) a peculiar bird figure (peacock?) attached to an iron sheet.

244. RIVETT–CARNAC, J. H.

"Prehistoric Remains in Central India" in *PASB* 1879, p. 11.

This is an abstract of a paper read before the Asiatic Society recounting the results of the excavations of burial circles at Junapani, near Nagpur. The nature and contents of the burials have been discussed in detail and have been compared with similar monuments in Europe.

The President, Mr. Blandford, observed that the peculiar and restricted distribution of these would indicate their attribution to an immigrant race and not to an aboriginal tribe. The snaffle bits and stirrups would con-

nect the circle-building race with the tribes of central Asia, who have been horsemen from time immemorial. None of the wilder tribes of the Indian peninsula used horses and it is not indigeneous to the country. In Europe all such monuments were associated chiefly or entirely with bronze. The occurrence of iron implements in so many cases has been explained thus :

(i) the Indian remains might be later in chronology, or (ii) iron came into use earlier in India than in Europe.

245. RIVET-CARNAC, J. H.

"Prehistoric Remains in Central India" in *JASB*, XLVIII (1879), pp. 1-16 A detailed account of the Tumuli (cairn circles) at Junapani on the Nagpur-Katol road has been given with an excellent description of iron and other metallic objects discovered.

Conclusions from the excavated megaliths are as under :

(i) The barrows in India and Europe always faced south;

(ii) remains found in the Indian barrows resembled almost exactly the the remains dug out of similar burial places in Europe;

(iii) the shape of the tumuli in India and Europe were the same; and

(vi) cup-marks on the boulders which surrounded the Indian tombs were identical with the cup-marks found on the stones placed around the same class of tumuli in Europe. These cup-marks formed a sort of code message similar to Morse code.

246. ROY, David

"Megalithic culture of the Khasis" in *PISCA* 1937, p. 334.

Erection of stones underlined the idea that the person did not die. Bones were collected and deposited. Stone was a symbol of permanence. It formed a connexion between the living and the dead. The dead influenced the living in their life and property. Hence food-giving ceremony was continued for the dead also.

247. ROY, Sarat Chandra

"A note on some remains of the ancient Asurs in the Ranchi District" in *JBORS*, I (1915), pp. 225-253.

The Asur sites are distributed from the northern banks of the river Kanchi near Kalamati in the Ranchi Thana up to the banks of the river Phuljar on the borders of the Singhbhum District. The remains were found in the villages of Khunti tola, Pokla, Kamanta, Anigara, Dargama, Bichna, Pandu,

Lupongdi, Digri, Oskea, Bamni, Toner, Sanrigam, Indpiri and Etre. The urns were found buried a couple of feet below the huge flat stones. They were piled one above the other, and contained bits of bones, a couple of small pots and an earthern lamp in one instance. Besides, iron objects, copper ear-rings, copper bracelets, anklets, rings, strings of beds of stone and copper were also found. Apart from the flat stone monuments upright standing stones of considerable dimensions were also observed.

The sites were conveniently situated on the banks of a river, commanding a view of the country to faciliate defence. Bricks, buildings, tanks, cinerary urns, copper ornaments and iron smelting were the principal features of the Asur sites.

248. ROY, Sarat Chandra

"Distribution and nature of Asur sites in Chota Nagpur" in *JBORS*, VI (1920), pp. 393-423.

A burial and habitation site of the Asurs has been described. The burials were located at Khunti tola.

The graveyard was on a highground. A big stone usually supported on the corners by smaller ones concealed urns, sometimes numbering up-to thirteen. The bones were found in varying stages of disintegration and were carbonized, denoting that the bodies were burnt and the bones collected for burial. Inside the covered urns were smaller vessels and other ornaments, copper and bronze objects. Ornamentation on pottery consisted of rectilinear, circular, elliptical, punch-mark, curvilinear designs and fingernail decorations. Animal and floral designs were rare among sepulchral vases. Decoration on copper and bronze objects consisted of rectilinear, curvilinear, spherical, beaded, fluted, plaited and scroll designs.

Personal ornaments consisted of bracelets, anklets, ear ornaments of bronze, rings, beads, ankle-bells, of bronze etc. Among iron objects the following could be mentioned: bracelets, rings, and arrow-heads. Of particular interest would be the discovery of a metal figure of a man driving a plough with a pair of bullocks.

249. RYBOT, N. V. L.

"Groups of menhir in Kashmir" id *Man*, XXXI (1931) Art. no. 115.

The principal group of menhirs was found at Ramariki near Burzihama (Burzhom), about two miles (3 Km.) north-west of Shahi-imarat (commonly

called Shalimar) gardens in Kashmir. The second was at Shadipur, ten miles (16 km.) downstream from Srinagar. Another group was also found near Srinagar.

250. SALI, S. A.

"Exploration in District Dhulia" in *IA 1960-61*, p. 26.

In a pit-burial at Ranjala, besides pieces of human bones distinct megalithic pottery *viz.*, conical bowl, stand, dish etc., in Black-and-red and all black wares were found. Although no megaliths were found, the occurrence of undoubted megalithic pottery as far as the Tapti valley is significant.

251. SANDFORD, J. R.

"Notes on the recent opening of some prehistoric graves in the Coimbatore District, Madras Presidency" in *JAS*, III (1901), pp. 461-71.

A few circles enclosing urns and cist burials were excavated in three places in the Coimbatore District. Contents were the usual megalithic grave goods such as pots, bones and iron implements. Painted pottery was found at Mangalam.

252. SANKALIA, H. D.

"Megalithic monuments near Poona" in *BDCRI*, I (1939-40) pp. 178-84.

Dolmens, menhirs and stone circles were found at Bhavasari, about eight and a half (13.7 km.) miles north of Poona on the Poona-Nasik road. Among dolmens the author found a modern erection utilizing materials of an ancient monument. Interesting was the construction of another modern 'dolmen-shrine' for an aged dead couple whose images have been installed in it. Local enquiries revealed that the purpose of the dolmen was to give some resting place for the spirits of the dead couple. Another feature was the use of a dolmen as a shrine for 'Chadoba' a local village deity. A polygonal stone enclosure was also found.

253. SANKALIA, H. D. *et al.*

"Excavation at Tekkalakota, District Bellary" in *IA 1963-64*, pp. 24-25.

In TKT-1, the top layer showed megalithic or early historical intrusion.

In TKT-3 (Gaudaramula) the later deposits revealed the use of Russet Coated Painted Pottery and the megalithic Black-and-red Ware.

254. SARAN, B.

"Exploration in Tamilnad" in *IA 1955-56*, p. 27.

Urn-fields without any megalithic appendage were found at: (i) Nanjalur and Kattumannargudi in the Chidambaram Taluk and (ii) Kumaramangalam in the Vriddhachalam Taluk of District South Arcot; (iii) Therazhundur; (iv) Kondahai and Pittacheri; and (v) Perunkadambalur in Mayavaram, Nannilam and Nagappattinam Taluks respecttvely. The last mentioned site is seemingly associated with habitation. At Palayagandharvakottai megalithic stone-circles were also observed.

255. SARDARI LAL and R. K. PANT.

"Exploration in District Anantnag" in *IA 1962-63*, p. 9.

Menhirs of the Burzahom type were noticed at Begagund, Gofkral, Hariparigom and Pampur.

256. SARKAR, H. *et al.*

"Exploration in District Guntur" in *IA 1960-61*, p. 1.

Megaliths were discovered at Lam, Motadaka, Le Malle and Yedlapadu. The bounding circle-stones were of untrimmed granite boulders.

257. SARKAR, H. *et al.*

"Exploration in District Guntur" in *IA 1961-62*, p. 1.

Cists were observed at Nemalipuram, 63 km. from Guntur and Syamarajapuram on the Buggavagu.

258. SARKAR, H. *et al.*

"Exploration in District Krishna" in *IA 1961-62*, p. 1.

Neoliths and Megalithic monuments were noticed at Donabanda, 22 km. north-west of Vijayawada.

259. SARKAR, H. *et al.*

"Excavation at Kesarapalli near Gannavaram, District Krishna" in *IA 1961-62*, pp. 1-2.

The site is situated at a distance of about 20 km. north-east of Vijayawada on the Madras-Calcutta Trunk road. In Period II iron and megalithic pottery begin to appear. Successive floor levels with post-holes and oven were exposed. The burial monuments were found near the habitation area and they are cists.

260. SARKAR, S. S.

"Human Skeletal Remains from Brahmagiri" in *BDA*, IX (1960), pp. 5-26.

The author has upheld Wheeler's observation (see below 342) that the pit circles were macerating pits, thereby refuting Banerjee's disagreement with Wheeler (see above 21). These pits were common macerating pits and their use was temporary being analogous with the modern burning ghats which serve a large population No selection of bones was involved. The pit circles were, perhaps, always kept open. The fact that the gold beads were not stolen was perhaps due to the universal fear of the dead and absence of the motive for stealing.

A detailed examination of the crania and long bones found in Megalith VII has supported his theory. The mass of skull no. I, on cleaning comprised fragments of two crania, one of which was of an adult with thick spongy light bones and the other of a child or young adult with some unossified portions. A comparative study of the loss of spongy portions in the adult bones with that of the child or young adult would indicate the relative time of exposure.

The long bones might belong to the skull no. 2 of Brahmagiri, Megalith VII. Those of the other crania were difficult to find.

Some animal bones were also found.

Ethnic affinities observed were tentative. Four skulls from Brahmagiri Megalith I appear to be meso and brachy in cranial index and hyperchamaerrhine in nasal index. These skulls agreed with one another in a large number of morphological details pointing to a familiar relationship. Superimposition of median sagittal craniograms also point to this conclusion.

From the sparsely available (only two) long bones it could be observed that these were above and below median in stature. The robust ness of the skeletal parts, the prominent molars of the highly worn out teeth indicated a very strong physical type. The characters of the above four skulls did not agree with the autochthonous Australoid type of this country nor with the Indo-Aryans and therefore appeared to be of foreign origin.

Skulls E and D differed considerably from the above morphologically and indexes and would perhaps represent the autochthonous Australoid element in this country. Presence of skulls with divergent ethnic characters would indicate hybridization.

Megalith IV contained bones, besides, those of a child remains of two adults of whom one was of slender build. Megalith V gave the same evidence. Megalith VIII also contained two of which one was slender. These pointed to the conclusion that each megalith was a family vault. Sialk brachycephals might be responsible for the Brahmagiri brachycephals. The mesocephals of Brahmagiri were probably close congeners of the 77·79

index people in Central and Western India. The child skull of the stone axe culture was Australoid in form.

Concluding the author observes, 'the crania from megaliths reveal an autochthonous Australoid type and a more or less medium statured mesocephalic medium vaulted flat nose type with robust constitution and powerful upper and lower jaws probably of the Scytho-Iranian stocks'.

261. Sastri, T. V. G.

"Exploration in District Mahbubnagar" in *IA 1967-68* p. 5.

Cairn-circles and megalithic Black-and-red Ware were discovered at Chellipad in taluk Kolhapur.

262. SAXTON, G. H.

"A set of iron implements etc. found in the Estate of Major Sweet" in *PASB* 1870, pp, 52-54.

Col. Saxton, while sending a set of iron implements, pottery etc., from a a cromlech in a private estate in Nilgiris has given an account of the contents and traditions regarding the cromlechs. The pottery sent by him were similar to those from the cromlechs in Coorg described by Oldham.

263. SEN, D. *et al.*

"Exploration in District Singhbhum" in *IA 1961-62*, p. 9.

Megaliths were noticed at Barbil (about 240 in one locality), Kendposi, Ukri, Guriadi, etc. Representative monuments were dolmenoid structures and menhirs. Two were excavated at Barbil. Beneath the flat slab-cap stone urns containing fragmentary bones were found. Several small boulders were also found. Several small boulders forming the orthostats supported the capstone.

264. SEN GUPTA, K. K.

"On the chronological sequence of some megalithic monuments" in *JASB*, XII (1916), p. cvxlv.

Modifying the chronological table of Logan, the author has given a revised sequence.

(i) Dolmens, menhirs, cromlechs, etc. (ii) Excavated caves – (i) and (ii) and synchronous; (iii) Caves with massive urns, umbrella stones and massive sepulchral urns without caves; and (iv) modern sepulchral urns of a small size.

Chronological sequence of megalithic monuments assessed through evolution in different countries would be doubtful. Neither architecture nor contents would indicate contemporaneity.

265. SESHADRI, M.

"Megaliths in Mysore" in *IA 1955-56, p. 70.*

Megaliths were noticed at Narsamantale, Arkalavadi in Chamarajanagar Taluk, Chimasandra, Konganahalli in Chintamani Taluk, Jadigenahalli in Hoskote Taluk and Kongarajapalle in Kolar Taluk.

266. SESHADRI, M.

"Excavation at Jadigenahalli, District Bangalore" in *IA 1956-57*, pp. 34-35.

Megalithic stone circles, their diameter varying from six feet to twenty feet (1.8 to 6 m.) were excavated. The largest was a double circle. These enclosed pit burials, twelve to thirteen feet (3.6 to 3.9 m) in depth. In two megaliths sub pits were noticed, i.e., the lower parts were divided into two. One of them entombed a sarcophagus whose body was moulded by hand with wheel-made legs and domical lids. None of them contained skeletal remains. Pottery and iron objects such as sickles, dagger and an object resembling frying pan were found. Pottery was the usual megalithic ware.

A fuller illustrated report has been published subsequently. (See M. Seshadri, *Report on the Jadigenahalli megalithic excavations for the year 1957*, Mysore, 1960).

267. SESHADRI, M.

"Excavation at T. Narasipur" in *IA 1958-59*, p. 33 and *IA 1959-60*, p. 38.

Period II of T. Narasipur represented a full fledged megalithic culture with typical Black-and-red, black polished and red wares. The megalithic pottery was noteworthy for its high polish, variety of shapes and graffiti.

268. SESHADRI, M.

The Stone using cultures of Prehistoric and Protohistoric Mysore (London, 1956), pp. 59-72.

One chapter deals with the megalithic problem in Mysore.
The subject has been discussed in its many aspects *viz.*, its relation to raw materials, geographical location, architecture, grave goods, age, etc.

Construction of megalith entombing a rich variety of articles was exclusively confined to the aristocratic stratum of the society. Erection of slab-cists in a *svastika* pattern was a constructional necessity.

Among the grave goods found from Huttanahalli was an iron celt resembling the copper celt of the Gungeria copper hoard. Beads were of carnelian, magnesite, steatite and serpentine. Substitution of more easily producible articles was going on in the megalithic period. Stone was being replaced gradually. The author has mentioned that Rea found a polished stone celt in a stone circle at Perumbair and Numa-Laffite discovered stone axes in the urn fields near Pondicherry. The author feels that Chandravalli would, perhaps, be a further step in the southern expansion of the megalithic folk.

Finally, discussing their age, the author has discounted the common origin theory between Indian and European megaliths. Recounting evidences of coins, pottery etc. the megalithic period has been given a date range from sixth century B.C. to first century A.D.

269. SESHADRI, M.

"Excavation at T. Narasipur, District Mysore" in *I.A. 1961-62*, pp. 35-36.

Excavation was in continuation of previous work and the results were identical.

270. SEWELL, R.

"Prehistoric burial site in Southern India" in *JRAS* 1902, pp. 165-70.

A synopsis of the prehistoric burial sites of South India is given. Urn burials continued to be used in the Chola times as well. A few problems as to the burial customs and manners, arts and crafts of ancient people have been raised which have to be solved by the archaeologists.

271. SEWELL, R.

Lists of the Antiquarian Remains in the Presidency of Madras (1882), Vol. I.

Among other things ths author has mentioned the places where megalithic burials have been found. The compilation has been made from the information supplied and they need verification.

272. SHARAN, B. K.

"Exploration in District Ranchi" in *IA 1961-62*, p. 8.

Small dolmens and few microliths were noticed at Sonahatu.

273. SHARAN, B. K.

"Megalithic burials, Lohardaga, District Ranchi" in *IA 1963-64*, p. 86.

Megalithic burials were discovered at Lohardaga.

274. SHARMA G. R.

' Exploration in the Districts of Allahabad, Azamgarh, Faizabad, Ghazipur and Varanasi" in *IA 1961-62*, pp. 52-53.

Two types of megaliths, stone circles with cairn and stone circles with upright stones in the middle were discovered at Hathinia foot-hills on the right bank of the Chandraprabha river in Chakia Tahsil, District Varanasi and to the east of the hill Magandiwana near Ahraura; the former being the dominant type. The relation of these with megaliths of south India remains to be decided through excavation.

275. SHARMA, G. R. *et al.*

"Exploration in District Allahabad, Banda, Mirzapur and Varanasi" in *IA 1962-63*, pp. 31-32.

Megalithic tombs were noticed at the junction of the northern slopes of the Vindhyas and the Ganga-Yamuna alluvium and on the banks of the rivers and nullahs at the foot of the Kaimur range. Types consisted of cairn-circles and dolmenoid cists. The sites so discovered were Badaun-kalan, Kotia, and Mando in District Allahabad; Arjunapur-Lauria, Barkachcha, Tarji, Chittampur, Deopur, Jarha, and Lalpur in District Mirzapur; and in the regions between the valleys of Chandraprabha and Karamanasa and at the foot of the isolated hillocks, especially around Hathinia hill and Bhadahwan pahar.

At Kotia in District Allahabad more than three hundred monuments of both types were observed. Cairn-circles were preponderant in District Varanasi and dolmenoid cists in District Allahabad, Banda and Mirzapur.

Corresponding habitational sites with black-and-red ware, all black and red wares were found at Baira, Daira-Dumunhanva, Deoghat, Kaurihar, Khajuri, Malabara, Mobarkpur and Tirasi. The first and the third sites yielded also a few sherds painted in black over a red surface.

276. SHARMA, G. R. *et al.*

"Exploration in Districts Allahabad, Mirzapur and Rewa (Madhya Pradesh)" in *IA 1963-64*, p. 39.

Megaliths were found at Bataubir, Hardaun on the Gorma, Jadipur, Kapasi, Kondi, Koskan-Gadha, Kundari, Lonamati, Mando, and Majhigawan in District Allahabad near Chachai falls in Madhya Pradesh.

A megalithic habitation site was located to the south-west of Hardaun. Typical black-and-red ware and a coarse dull-red ware comparable in

fabric texture and typology to those from the megaliths at Kotia were obtained from here.

27. SHARMA, G. R. *et al.*,

"Excavations at Kotia, District Allahabad" in *IA 1963-64*, pp. 40-41.

Five megaliths were excavated. The purpose was to ascertain the nature and contents of the megaliths and to compare them with those from Varanasi, Mirzapur and the peninsular India. Types excavated were cists (Megs. I, II and III), a cist enclosed by a cairn-circle (Meg. IV) and a cairn-circle (Meg. V).

The cists invariably consisted of an east-west oriented rectangular chamber, 60 cm. deep where the side walls were made up of piled stones, one above the other in two or three courses against the slanting sides of the pit. The cists had no stone-flooring. The chamber inside was filled up with small pieces of stones. Variations within this pattern occurred. Thus Meg. I was divided into three compartments with no connexion between them.

Megalith IV, a cist enclosed by a stone-rubble had on the top of the cairn a replica of the stone-chamber within.

Megalith V, a stone-circle concealing a rectangular pit with its longer axis east-west, was 60 cm. deep. Contents were pottery, an iron spear-head and skeletal remains placed on the floor over a 15 cm. thick ash-deposit.

Megalith I yielded five iron implements, a spear-head, two sickles, an arrow-head and an adze; pottery and bones. Megaliths III, IV and V also yielded iron.

Most of the bones, excepting for three pieces of ribs from Meg. V, belonged to animals, representing *Bos indicus*, sheep, pig and cattle. Bones of tortoise and rodent were also found in Meg. V. A few animal bones (from Meg. I.) exhibited cut marks indicative of a sort of sacrifice. Some were in charred state.

Pottery included black-and-red, red and dull lack or grey ware of thick fabric. Shapes in pottery consisted of bowl or dish with out-turned rim and flattened base, bowl with hollow and solid pedestal, bowl with ledged shoulder, sharply carinated cooking vessels, knobbed-lid, elliptical storage jar, etc.

Association of iron objects would place these megaliths after those in the Varanasi region. There is no similarity of pottery forms in these two regions. Megaliths here may tentatively be assigned to a time bracket of eighth-fourth centuries B. C.

278, SHARMA, G. R.

"Excavation at Hathinia-Pahar, Kakoria and Bhadahawan Hillock, District Varanasi" in *IA 1963-64*, pp. 57–58.

Five megaliths (Megs. VIII–XII) were excavated in the Hathinia–Pahar and Bhadahawan Hillock area. Of these four were cairns and one a cist (Meg. X).

The cairns concealed a rectangular pit, oriented east-west and cut into the hard natural soil to a depth of 1.3 m. Grave furnishings consisted of pottery, beads and bones. A microlith was also found in the pit over a layer of red sand. Only in Meg. VIII pots were found at different levels. Megalith I, excavated last year, and Megalith XI showed some foreign material in the form of black soil in the filling.

The cist (Meg. X), in the centre of the stone circle measured 1·82 x ·96 m. Its side walls were made up of courses of small stone-pieces resting against the walls of the dug out pit. Longer axis was east–west. Finds inside the grave were four stone slabs, a fragmentary rim of black-and-red ware and a few sherds of other pottery. No bones, however were found.

Excavation in habitation area revealed besides, other things pottery types comparable with those from the chalcolithic sites of central and western India, Rajasthan and the southern Deccan. The chalcolithic-megalithic culture here can be placed in the second half of the second millennium B. C. with a bias towards an earlier date.

279. SHARMA, I. K.

"Exploration in District Kurnool" io *IA 1962–63*, p. 2.

Discovered an extensive megalithic site containing port–holed cists at Mirapuram. The arrangement of the orthostat was in the *svastika* pattern.

280. SHARMA, I. K.

"Stone Age and neolithic site, Peddandluru District Cuddapah" in *IA 1962–63*, p. 65.

Megalithic monuments including cairn-circles and cists were found in Kanyathirtham area in the village Peddandluru.

281. SHARMA, Y. D.

"Age of rock-cut caves in Cochin" in *PISCA* 1947, p. 142.

An attempt has been made to date the caves on the basis of pottery and architectural technique. The caves are neither Vedic nor Buddhist in origin but they form part of the megalithic culture.

282. SHARMA, Y. D.

"Rock-cut caves in Cochin" in *IA*, no. 12. (1956), pp. 93-115.

Method of construction of those found at Chovvannur, Kandanissery, Kakkad, Porkalam, Eyyal and Kattakampal has been given. The caves have been classified into: (i) caves with central pillar, (ii) caves without pillar; (iii) caves with top opening; and (iv) multi-chambered caves. Vedic and Buddhist origin of these caves have been discounted in favour of megalithic origin. Typological evolution would be as under:

(i) Benched port-holded cists; (ii) caves with central pillar; (iii) caves without pillar; (iv) caves with top opening; and (ii) and (iii) further developed into multi-chambered caves.

283. SHAW, R. B.

"Religious cairns of the Himalayan region" in *RBAST* 1872, pp. 194-97.

The cairns found in the slopes of Dhalao Dhar, in the plains and rocky valleys of Tibet and in the gorges of Kuenlun mountains pertain to some sort of *Devi* worship. They were not sepulchral monuments. Buddhists and Muhammadans disowned them and show scant respect.

284. SINHA, B. K.

"Exploration in District Chanda" in *IA 1967-68*, p. 32.

Megalithic stone-circles were found at Aturdi and Khemjai.

285. SIRCAR, D. C.

"The Dravidian Problem" in *MI*, XXXV (1955), pp. 31-38.

The Indian megalith-builders were Dravidians. They migrated into India by sea in the later half of the first millennium B.C. There were no Dravidians in the north. The tribal area constituted an effective barrier between the northern Aryans and the southern Dravidians and this belt was gradually reduced due to expansion from north and south. The author has refuted this postulation drawing extensive support from literature.

The Indo-Aryans had no alphabet. They did not invent Brahmi script. This would suggest that the Indus script from which the Brahmi, in all probability, is derived was used by the Dravidians. The author has cited evidence for the fusion of Aryans and Dravidians. Racial and cultural fusion must have taken place outside India in Iran, possibly East Iran. The people of Mohenjo-daro and Harappa were speaking Dravidian languages.

286. SIVIAH, M.

"Exploration in District Medak" in *IA 1961-62*, p. 2.

Stone circles were discovered near Siddipet, Akkannapalli, Malial, Verareddipalli and Venkataraopet (Siddipet Taluk).

287. SIVIAH, M.

"Exploration in District Medak" in *IA 1962-63*, p. 2

Prehistoric burials were found at Pirlapalli and Sivar-Venkatapur.

288. SIVAYYA, M.

"Early and Middle Stone Age and megalithic sites, District Chittoor" in *IA 1963-64*, p. 86.

Dolmenoid cists were noticed at Bodigutta (Madanapalli area), dolmens at Mushtur and Tavalam. Stone circles were also found at the latter site.

289. SIVAYYA, M.

"Megaliths, Mallavaram, District Guntur" in *IA 1963-64*, p. 86.

Dolmenoid cists and stone circles were discovered at Mallavaram, Palnad Taluk.

290. SOUNDARA RAJAN, K. V.

"Excavations at Nagarjunakonda, District Guntur" in *IA 1956-57*. p. 36.

A megalithic stone circle enclosing an oblong pit covered by multiple capstones of cuddapah slabs was excavated. Towards the bottom of the pit was a slab cist covered with multiple slabs but neither port hole nor floor slab was seen. The burial was secondary, disarticulated skeletal remains with the usual megalithic furniture *viz.*, pots, iron implements etc.

291. SREENIVASACHAR, P.

"Stone circle in District Hyderabad" in *IA 1958-59*, p. 68

Twenty-one stone circles at Koisaram, in Medchal Taluk and a group of thirty-five near Balajigutta were discovered.

292. SRINIVASAN, K. R.

"Archaeology" in *RASMP*, Fazli 1348 (1938-39), pp. 3-5.

A short account of the results of the excavation of a megalithic monument at Tiruppur and some observation on a cist interment at Tayinipatti has been made.

The bounding circles varied from ten to twelve feet (3 to 3·7 m.) in diameter. In the larger circles cists were found. Architectural details of transcepted cists with antechamber and port-hole has been included. The lower and upper portions of the northern half of the transcepted cist contained very few pots and iron objects, while the southern half entombed bulk of the burial furnishings. Large iron weapons were found placed on the floor and smaller ones in pots. All were inserted with point downwards. Some of the pots were covered with lime.

Five urn burials were opened. The urns had a granite slab covering. One monument enclosed two urns with a common capstone, which was rather unusual. In one such burial at Pulvayal it was observed that each urn enclosed the entire human skeleton in a squatting position holding a short bladed sword in one arm while the other rested on the thigh.

At Tayinipytti the antechamber was found on the western side. This is in contrast with the normal eastern side. The burial sites have been referred to in inscriptions of the thirteenth century as *kuranguppattarai* (workshop of the monkeys) which would indicates that by this time people had become ignorant of this custom of the disposal of the dead.

293. SRINIVASAN, K. R.

RSMP, Fazli 1349 (1939-40), pp. 2-12.

Four earthen ware vessels recovered from a megalithic site at Sinnappanduranpatti were acquired to the Museum. At Kalasakkadu, lying to the west of Tirukkattalai village, Alangudi Taluk, stone circles enclosing urns were observed. Megaliths at Annavasal, Sinnappanduranpatti, Vattankurichi, Narangianpatti, Virudapatti, Poyyamani and Sokkanathanpatti were also examined.

294. SRINIVASAN, K. R.

RSMP, Fazli 1350 (1940-41), p. 14.

A burial site to the south of the Vellar railway bridge was discovered.

295. SRINIVASAN, K. R.

"Kallukulam urn burials" in *RSMP*, Fazli 1351 (1941-42), pp. 6-7.

A brief report on the burial site in the Kallukkulam waterspread in the Kilaiyur-Vadakkupattu, hamlet of Sendakkudi village is given. These cairns with urns inside recalled those from Tirukkattalai. Some were multiple urn burials three in a line. The cairn rubble consisted of broken laterite bits. The bounding stones were of natural laterite cut into rectangular shape. The urns were of a coarse fabric decorated with a series of thumb-nail impressions recalling the twisted-chord design. Pottery obtained were thin and highly polished. A flat circular pottery piece resembled a coin. Similar things were obtained from excavations at Aivar koil.

√296. SRINIVASAN, K. R.

"Tenimalai prehistoric burials" and "Melur prehistoric burials" in *RSMP*, Fazli 1352 (1942-43), pp. 6-7.

The site at Tenimalai is located on either side of the road. The situation of a natural cavern nearby enhances the importance of the site.

Urn and cist burials among low outcrops were observed at Melur. The bounding boulders were of laterite and gneissic granite. In one case a stone slab was found covering an urn beneath.

√ 297. SRINIVASAN, K. R.

RSMP, Fazli 1343 (1943-44), pp. 7-9.

Megalithic sites at Melur, Annavasal, Puttambur and Killanur were noticed.

Melur: The stone circles here enclosed cists and urns. In one of the disturbed circles an image of a *Jaina thirthankara* was found.

Annavasal: Cists and urn burials were noticed on the waterspread of the tank locally known as Kuranguppattadai endal. The circle boulders of one were of laterite while those of others were of granite.

Similar megaliths were also noticed a little further away in the waterspread of Mudalikulam tank. A few menhirs were also observed. One such menhir measured nine feet (2·7 m.) in height and six feet ten inches (2·08 m.) in circumference at the bottom.

Puttambur: Monuments were similar to the above sites. The site has been entered as *Kuranguppattadai*, *Kalkuthu* and *Velankadu* in the village revenue records.

298. SRINIVASAN, K.R.

"Indian Megaliths with special reference to Pudukkottai" in *PISCA* 1944, p. 97.

All the resources needed for the Iron Age Man were present in Pudukkottai. Stone-circles, cairns, dolmens and cromlechs are abundant. Neither Vedic Aryans nor the Indus people were responsible for these monuments. Tamil literature is replete with ample evidence for the practice of this cult from at least 1000 B.C. Survival of this cult and the knowledge of iron among some primitive tribes in the south and central India would suggest an earlier period, probably 2500–1000 B.C. Egyptian origin for this cult has also been indicated.

299. SRINIVASAN, K.R.

"Prehistoric burial site at Kadiyapatti" and "Prehistoric burial site-Firka Kilaiyur" in *RSMP* Fazli 1354 (1944–45), pp. 5–7.

Remains of extensive urn-field in the waterspread of Kadiyakkanmai at Kadiyappatti village were noticed. The bounding boulders were mostly of laterite with quartz and laterite rubble for cairn filling.

Burials were found in Firka Kilaiyur on either side of road no. 9, a little to the east of culvert no. 89. The site falls within the boundaries of Kilaiyur Rasalippati and Poyyamani villages.

300. SRINIVASAN, K. R.

"Field Archaeology" in *RSMP* Fazli 1355 (1945–46), p. 5.

Megalithic sites at Vilappatti and Vadaguppati villages were noticed.

301. SRINIVASAN, K. R.

"The Megalithic burial and cairn fields of South India in the light of Tamil literature and tradition" in *AI*, no. 2. (1947), pp. 9–16.

The author has cited extensive references from Tamil inscriptions and Tamil literature *viz., Tolkappiam* and other *Sangam* works etc., in support of the practice of megalithic urn-burials in south India. Attention is drawn to the five kinds of burials mentioned in *Manimekalai*, a *Sangam* work. *Sangam* literature dates from the third century B.C. The beginning of the megalithic and urn burial culture is to be found in the pre-*Sangam* age and earlier than the effective Aryan impact on south Indians. The predominance of Vedic ritual combined with the misconception about the urns found in works of the eleventh century A.D. would indicate a *terminus quo*, which perhaps had set in the fifth century A.D.

302. SRINIVASAN, K. R.

"The Megalithic monuments of South India, Literature and tradition" in *TASSI* 1958–59, pp. 1–14.

Defining the different types of megaliths the author has observed that the nature of grave goods, particularly the wheel-made Black-and-red Ware plus the iron implements were the linking features between the types. The southern Indian megaliths are sepulchral. Existing evidences for dating them has been recapitulated. Tamil literature, especially, *Sangam* works mention the megalithic burial customs and the author has quoted profusely from them. He has also shown how the local names for these burials get transformed in usage and give an entirely different meaning from its original import. The monuments bore witness to a highly advanced state of civilization with the knowledge of iron and community living. Haimendorf's views regarding the authors of the megaliths and their possible routes of migration, chronology etc., has been incorporated.

303. SRINIVASAN, K. R.

"Some aspects of religion as revealed by early monuments and literature of the South" in *JMU*, XXXII no. 1 (1960), pp. 131–198.

Under the sub-heading the 'Megalithic cult' the author observes that the megaliths were mute witnesses to the great veneration and devotion to the dead and the belief in *postmortem* life. *Sangam* works are replete with references to the funerary and memorial monuments. The author has quoted extensively from these works and in one instance a new interpretation for the lying-in-state, exposure to elements and final collection and washing bones for ultimate burial (*Tolkappiam, Porul adikaram* 2 : 5) has been given. References to memorial stones have also been made.

304. SRINIVASAN, K. R. and N. R. BANERJEE

"Survey of South Indian megaliths" in *AI*, no. 9 (1953), pp. 103–15.

A rapid survey of the work done on south Indian megalithic burials—previous work, recent explorations, types, results of the recent excavations etc., has been made. The monuments are to be found on rocky high grounds unfit for cultivation and near irrigation tanks. The homogeneity of burial furnishing of the Adichchanallur urn interments bring them into the fold of the megalithic culture. In determining chronolgy, literature (Tamil *Sangam*), coins, pottery, beads and stratigraphy have been taken into account. The authors have recounted Haimendorf's arguments for identifying the megalith-builders with the Dravidians. The beginning and end of this culture on the Indian soil is an unsolved problem.

305. SRINIVASAN, L.K.

"Exploration in District Chanda" in *IA 1960–61*, p. 24.

Stone-circles were observed near Dongargaon, at Chak Vithalwada and Kukud Chimda. Menhir was also noticed near Ravi.

306. SRINIVASAN, L.K.

" Exploration in District Chanda " in *IA 1962-63*, p. 15.

Stone-circles were found near Ranparsodi and at Jodholi and Umri.

307. SRINIVASAN, L K.

" Exploration in District Chanda " in *IA 1963-64*, p. 22.

Megaliths were found near Hirapur in Tahsil Warora.

308. SRIVATSA, L.K.

" Megaliths in District Chanda " in *IA 1959-60*, p. 72.

Two stone circles were discovered at Sindhla in Chanda Tahsil, District Chanda.

309. SUBBARAO, B.

"Prehistoric and Protohistoric Bellary" in *PISCA* 1950, p. 211.

Bellary region occupies an unique position in the lower Deccan permitting cultural migrations. The excavations at Sanganakallu by the author and at Brahmagiri by Wheeler have enabled correlation of the prehistoric and early historic cultures in the heart of the Deccan.

310. SUBBARAO, B.

The Personality of India (1958).

Dealing with the early historic period and the megalithic problem (pp. 117-23) the author says that the megalithic complex is linked with the Black-and-red Ware and iron. The basic form in Black-and-red Ware both in south and central India are common but the southern ones showed a tendency towards elongation and the development of pointed bases. No independent origin for both could be postulated. Further iron and Black-and-red Ware were not earlier in southern India. Types of weapons were also common. There is ample evidence to show that iron and Black-and-red Ware came into the south together. The author has also indicated future line of research, *viz.*, the necessity of separating the pottery and the megaltihic ritual, the nature of north Indian megaliths the possible finding of megalithic burial-complex without Black-and-red Ware in the South and finally the possibility of the contact of pottery and ritual in Central India.

311. SUBBARAO, B.

"Megalithic Problem of South India and the Dravidian Languages" in *TASSI*, Silver Jubilee volume (1962), pp. 132-51.

But for the complex burials the whole of Peninsular India, Gujarat, Malwa and Orissa have a common material culture, pottery, tools and weapons, typical of Indian Iron Age culture. Affinities in fabrics and the continuity of the so-called megalithic and non-megalithic areas with the same type of pottery, Black-and-red Ware, would not favour two diverse origins for this ceramic industry.

The fact that these people embraced the grave goods of central and western India would indicate that the megalithic cult was adopted or introduced into south India by a people who had already come into contact with the Iron Age people in northern and central India. Maritime movement-theory is not acceptable to the author. For a terrestrial movement, evidences pointed to a migration from north to south.

Discussing the eastern origin for the megaliths, the author feels that central and south India was meeting place of ideas and cultures from the east as well as west.

Grave goods are the crucial evidence for the solution of problems relating to the megaliths. Only the discovery of a pre-Black-and-red and pre-iron megalithic cult in south India would warrant an earlier date and the postulation of a direct maritime migration.

Factors pointing to a folk movement of this people and the direction from north to south has been mentioned.

Linguistic evidence proves that there has been mutual assimilation of words between Dravidian and Sanskritic languages.

Skeletal remains from Adichchanallur confirmed the affinities of the megalithic builders with the Dravidians. According to Sarkar (see above 260) those from the Brahmagiri megaliths were Irano-Scythians and were close to the general element of south India.

Megalithic Iron Age people did not evolve out of the earlier neolithic stock.

Iron was brought with the Black-and red Ware into the south. Solution for the megalithic problem lies in this particular Ware. Black-and-red Ware in Ahar, Rajasthan can be dated to 1500-1200 B. C. or earlier. This ceramic tradition spread in time and space and has become one of the constituent elements of the early historic cultures of the Gangetic basin.

Although sparse in Malwa, this ware became dominant in Iron Age replacing other elements. As one moved south the forms got elongated and new specialised ceramic forms appeared. There is homogeneity in this ware and hence we are not justified in distinguishing megalithic and non-megalithic wares. These two main material constitutents, the Black-and-red Ware and iron, came from north.

The Dravidian language in central and western India became extinct as evidenced by the Maharashtrians adopting Aryan languages, though retaining other Dravidic elements.

The author has identified the Dravidian elements through the distribution in space and time of the Dravidian languages and the earliest identifiable characteristic elemet of the Dravidian speaking people i. e., the Black-and-red Ware and iron.

Postulating a new theory the author say's 'the Dravidians seemed to have moved southwards and eastwards from Rajasthan across central to south India. They put an end to or succeeded the chalcolithic communities in those regions by about 500 B. C. or a little later, they managed to spread to the extreme of South India.'

312. SUBBARAO, B.

"Archaeology and Anthropolopy in India" in *Indian Anthropology*, Essays in memory of D. N. Majumdar (Bombay 1962), pp. 105–131

Dealinq with the problem of megalithic burials Subbarao is of the opinion that the burial complex influenced various communities with different cultural assemblages giving rise to different grave goods in what looked like a single burial complex. Concluding he says, 'the two most essential components of the grave goods: black-and-red pottery and iron infiltrated southwards from a non megalithic context. Thus a typical Iron Age culture of central and western India and Northern Deccan manages to spread tnto south India and their burial system is megalithic type.

313. SUBRAHMANYAM, R.

"Excavation at Nagarjunakonda, District Guntur" in *IA 1957–58*, p. 5.

Excavation of a megalith (stone-circle) revealed a central pit, 8 feet (2.13 m.) in width and dug into the hard natural soil containing pottery and iron objects. Another yielded only animal bones.

314. SUBRAHMANYAM, R.

"Excavation at Nagarjunakonda, District Guntur" in *IA 1958-59*, p. 6.

A stone-circle enclosing an oblong pit was excavated. Contents were besides, the usual furnishings partly disarticulated human skeletal remains.

315. SUBRAHMANYAM, R.

"Excavation at Nagarjunakonda, District Guntur" in *IA 1959-60*, pp. 6-9.

Brief description and finds therein of twelve of the eighteen megalithic burials excavated have been given. All of them excepting one with an oblong cist, were found. Structure and furnishing in the pit-circle were homogeneous. Noteworthy feature was the ash or lime and earth laid as a sort of cushioning for the overlying bones. The grave furnishings were similar to those found in the megalithic burials *viz.*, pots, iron objects and beads. In Meg. XII, besides, human remains and other furnishings was also found an articulated bovine skeleton whose skull was cut slightly above the upper teeth portion on the alveolar margin indicating sacrifice.

In Megaliths XIV and XV were found fully extended and articulated human skeletons, female in the former with spiral ear-rings made of gold wire, near the ear lobe and thirty-five gold beads and eighteen silver spacing beads in the neck region. In some animal bones were also found.

316. SUNDARA, A.

" Exploration in District Bijapur " in *IA 1958-59*, p. 32.

Megalithic stone-circles were noticed at Chikkamannur.

317. SUNDARA, A.

" Exploration in District Bijapur " in *IA 1960-61*, p. 28.

Stone-circles were discovered at Madnahalli, Maskanal, Salvadgi and Talikot. One of the stone-circles at Maskanal enclosed a cist-burial.

318. SUNDARA, A.

"Exploration in District Belgaum, Bijapur and Gulburga" in *IA 1963-64*, p. 23.

The following types of megalithic monuments were noticed at places mentioned against each :

Cairns : Shahabad ;

Cist : Mandewa in District Gulburga ;

Dolmens : Ashta, Kalkhamba, Muchandi in Belgaum District and Kondapur, District Gulburga ; and

Stone-circle : Mandapur in District Gulburga.

Besides, megalithic habitational vestiges were found at Kalkhamba, Muchandi, Rakhamgeri, Tabbidi and Vinhuthija ; the first two in Belgaum District and the rest in the District Gulburga.

319. SUNDARA, A.

"Exploration in District Dharwar" in *IA 1963-64*, pp. 25-26.

Megalithic burials and habitation sites were noticed at the foot of the Somesvara hills on the Unachagiri in Gudageri area, Taluk, Ron. The eroded section revealed urns containing bones. A few cairn-circles were also noticed.

320. SUNDARA, A.

"Exploration in District Dharwar" in *IA 1964-65*, p. 31.

Located a megalithic habitation site at Hirehal. Urn-burials were discovered at Gajendradgad, Gaudageri, Kalakaleswara, Rajuke and Unachageri.

321. SUNDARA, A.

"Exploration in Districts Belgaum, Bijapur and Shimoga" in *IA 1967-68*, p. 36.

A site consisting of forty megalithic structures built of quartzitic sandstone on top of a flat quartzitic sandstone hill near Kaladgi town, District Bijapur was discovered. Among these two types were hitherto unknown in India. One of them had a port-hole in the circle-stone connected with the chamber through a passage.

√ 322. SWAMINATHAN, V. S.

"Prehistoric Geology or Prehistory of the Chingleput and North Arcot Districts" in *PISCA* 1925, p. 266.

Stratigraphical position of the occurrence of the vestiges of Man is necessary to decide their antiquity. The author has discussed the age of the laterite in which most of the antiquities have been found. He has mentioned the important places where palaeoliths, neoliths, prehistoric burials, etc., occurred.

323. TAYLOR, M.

" Ancient Remains at the village of Jiwarji near Ferozabad on the Bhima" in *JBBRAS*, III (1851), pp. 179–96.

The author has pointed out the similarities between the Nilgiri, Deccan and European megaliths (cromlechs, Kistvaens, etc.).

At Jiwarji the diameter of the cairns varied from forty feet (12·1 m.) to sixty eight feet (20·7 m.). Some had double circles. Four monuments were excavated of which one seemed to be a pit circle and others cists. They contained stone chests or coffins. In one there was a double chest with a skeleton in each. The length of the skeletons were five feet seven inches (1·7 m.), five feet and five and half inches (1·66 m.) in one and five feet two inches (1·6 m.) and five feet (1·5 m.) in another. In the other two, only fragments of bones were found. A single broken skull outside the stone chest in one cairn has led the author to suggest some sort of sacrificial killing. The furnishings were the usual megalithic pottery, iron spear-head, tripods, a piece of sword, etc.

Conclusions are as under :

Cromlechs were similar to those found in Europe and Nilgiris. They were temples or altars for the performance of sacrifices or ceremonies.

Kistvaens or closed cromlechs were also identical with those of Great Britain and the Nilgiris. These were sepulchral. No idols or images were found in these cairns. Barrows were invariably found with single or double bounding stone-circles. They contained stone chests or coffins and were sepulchral.

The authors of these were nomadic tribes of Druidic Scythians who came to India very early.

324. TAYLOR. M.

"Notices of Cromlechs, Cairns and other Ancient Scytho-Druidical Remains in the Principality of Sorapur" in *JBBRAS*, IV (1853), pp. 380–429.

Cromlechs, Kistvaens, Cairns and rocks planted in diagonals (avenues) have been defined. A detailed account of the remains at Haggaritgi, Rajankolur, Belsettihal, Chikanhalli, Shahpur Hills, Ijeri, Mandevalli, Jiwarji, Andola, near about Kosgi, Yemmigudda, in the vicinity of Hyderabad and Gurumatkal has been given. The author has compared the monuments here with those in Europe and England and has concluded that these were vestiges of Celto-Druids and Celto-Scythians.

Commenting upon the remains inside a cairn at Chikanhalli the author says that these belonged to a sect who burned their dead and buried their ashes. They might be of the same sect as those who built kistvaens for the same purpose.

A tumulus at Shahpur was excavated. The mound was built up by the successive cremations in great numbers, as evidenced by the several layers of ash, bones, charcoal, etc., intervened by a thin layer of soft greyish earth.

Avenues were found at Shahpur, Vaibuthahalli and Ijeri.

Some of the cromlechs were small houses of nomadic tribes while those half buried and with bounding circles were sepulchral vestiges.

Additional proof for the Celto-Scythic association for these monuments could be found in the Tamil language which has affinities with that of the Todas, and again with the Tartar dialects.

325. TAYLOR, M.

" Description of cairns, cromlechs, kistvaens and other Celtic, Druidical or Scythian monuments in Dekkhan." in *TRIA*, XXIV pt. iii, (1862), Antiquities, pp. 329-62.

The author excavated many megalithic tombs which he has associated with Celts, Druids and Scythians and this paper embodies the results of his researches. Cromlechs, kistvaens, stone-circles, etc., were excavated at Rajan Kolloor, Hagaratgi, Belsettihal, Yemmigudda (yammeegooda), Jiwarji, Andola, nearabout of Shahpur, Vaibuthahalli, Toljapur, Ijeyeri and Mundavalle.

At Hagaratgi he found ashes and partially calcined bones in an urn.

At Jiwarji he found full skeletons buried inside the cairns. From the evidence he obtained he has postulated that some persons were beheaded and the corpses buried, suggestive of human sacrifice. In one cairn, in the earth above the cist several skeletons were found all in a jumbled position. At Andola he got bones of Iguana and dogs.

The Shahpur parallelogram of rocks is believed by the author to be cremation ground for the whole district. Here excavation of a tumulus revealed partially burnt bones, charcoal and potsherds.

Conclusions are as follows:

Cromlechs or open monuments with or without circle of stones contained no remains.

Kistvaens with or without circular perforation in a side slab and with or without covering slabs contained human ashes, bones and broken pottery.

Cairns and barrows with single, double and treble circles of rocks and stones contained ashes and skeletons with traces of human sacrifice, pottery, arms, etc.

He has also classified the ancient people into two types; (1) those who buried their dead with attendant sacrifice in cairns; and (2) those who buried their dead without sacrifices and interred the collected ashes in urns inside kistvaens and cairns.

(These three papers-nos. 322-24-have been republished in a book form, *Megalithic tombs and other Ancient Remains in the Deccan* by the Archaeological Department, Hyderabad State (now part of Andhra Pradesh) in 1941).

326. THAPAR, B. K.

"Porkalam 1948-Excavation of a Megalithic Urn burial" in *AI*, no. 8 (1952), pp. 3-8.

A monument common to Tamilnad and Kerala was tackled at Porkalam which yielded etched carnelian beads, the designs on them being similar to some dated ones (first century A.D.) found elsewhere. Two beads of Porkalam, exhibiting rough affinities with those from Bhir Mound (Taxila) would support this dating. This would also agree with the terminal date for megaliths evidenced at Brahmagiri.

The report includes the description of the monument, pottery and other finds brought to light *viz.*, pots of black, Black-and-red, and red wares placed both inside and outside the urn; iron implements; terracotta beads; etched carnelian beads; etc. Pottery was wheel-made and salt glazed. Of particular interest would be the four-legged jars.

327. THAPAR, B. K.

"Maski 1954: a chalcolithic site of Southern Deccan" in *AI*, no. 13 (1957), p. 4-142.

Excavation at Maski revealed that the earliest chalcolithic culture was succeeded by the megalithic folk, who were intruders-indicated by the

absence of overlap between the two strata. The megalithic culture has been dated from c. 200 B.C. to the middle of the first century A.D., with a reasonable margin of a century on the earlier side.

Apart from menhirs five classes of burials were confronted with.

Burial classes B (i) to B (iv), though belonging to the south Indian megalithic complex revealed new features, *viz*; (i) burials occurred in the habitation area itself; (ii) complete skeleton buried in extended and articulated position; (iii) north-south orientation of the major axis of the grave pits; and (iv) use of lime or ash on the pit floor.

Structural details of the burials have been given. While B (i) and B (ii) were essentially the same, the latter differed in orientation and in the fractional burial; B (iii) was an urn burial without any megalithic appendage and bounding circle; B (iv) was a pit burial (extended burial) and demarcated by a stone circle; and B (v) recalled the pit circles of Brahmagiri.

Burial furnishing consisted of the usual megalithic Black-and-red pottery and iron objects; black ware, however, was absent. The excavated menhir did not reveal any sepulchral association.

Pottery from all the burials was identical in fabric and technique. It was burnished or polished. Decorations comprised finger impressions. Each burial presented some common forms which linked each other confirming the unity of the burial classes. The quality and characteristic forms recalled those of Adichchanallur, Amirthamangalam, Perumbair, Brahmagiri, Sanur and other megalithic sites.

328. THAPAR, B.K.

" Excavation at Junapani " in *IA 1961-62*, pp. 32-34.

Junapani is situated at a distance of 11 km. to the noth-west of Nagpur on the Nagpur-Katol road. The site contains over a hundred and fifty megaliths, all of one type, cairn circles. Some of the circle boulders had ' cup marks '

Three megaliths were excavated and the details are as follows :

Megalith I: External diameter was 15 m. In the northern half there was a shallow pit, 8·80 x 3·50 m. with its longer axis roughly east-west. In it were found, at different levels, pots, iron objects and gold ornaments.

A stone-pestle was also obtained. Of the three pits on the southern half two were shallow. The southern most contained human skeletal remains, a few pots, forty-four etched and unetched carnelian beads, while the northern one, adjacent to the shallow pit entombed bones of *equidae* family.

Megalith II, a double cirlce yielded nothing excepting for a crushed pot.

Megalith III: External diameter was 16 m. Small boulders retained the fall of the clay heap. On the floor were the funerary furnishing viz., pots, gold ornaments, a silver stud, copper and iron objects, skeletal remains. The gold ornaments associated with the skeletal remains, were a bangle found worn on the hand and a ring found nearabout the jaw region. No special pit was dug in this megalith.

Constructional method of the megaliths was as below:

A circle of undressed trap boulders was formed. In the centre was heaped sticky black clay which was also formed the filling for the pit, if made. Within this conical filling which extended upto the base of the boulders were the funerary furnishing. Over this clay filling was the cairn packing which sometimes overrode concealing the circle boulders. Grave goods were also placed within this cairn filling.

Grave goods were as under:

Pottery consisted of four fabrics; Black-and-red, all black, plain red and a ware tempered with micacious grit. Due to the nature of the soil and the overriding weight of the boulders pottery became fragmentary and no shapes could be recognized. However, of particular interest would be a red bowl with a hole-mouth spout and painted in black pigment with oblique strokes on the rim. Iron objects comprised axes with cross-ring fastner, dagger, spear-lance, chisel, ladle, etc. Some recalled Adichchanallur finds. Copper objects were six anklets and a bell. Gold objects included a necklace with three annular disks with two perforations, a bangle made of fine disks threaded on a copper wire with hooked ends and a spiral ring. Solitary stone object was a pestle.

The above assemblage would indicate a rich iron working culture similar to south Indian megalithic culture.

329. TURNER, H. G.

"Cromlechs" in *Int. Ant.*, VIII (1879), p. 207.

Well preserved cromlechs occur on the southern slopes of the Aneimallies (Anamalai) Hills. Menhirs or groups of upright stones were also observed.

330. VANSTAVERN, T.

'Note on the antiquities found in parts of the Upper Godavari and Krishna District" in *Int. Ant.*, IV (1875), pp. 305-306.

Besides other vestiges a few megalithic monuments were noticed. Their constructional details, a brief account of the interments have been described. These monuments were locally known as *rakshasagullu.*

331. VENKATRAMAYYA, M.

"Early temples and megalithic sites, Manchikallu, District Guntur" in *IA 1962-63*, p. 66.

Megalithic burials and habitation site nearby were noticed at Manchikallu.

332. WALHOUSE, M.J.

"On some formerly existing antiquities on Nilgiris" in *Ind. Ant.*, II (1873), pp. 275-78.

A row of sculptured and connected dolmens (forming five partitions) found by him near Nidi Mand did not seem to be sepulchral.

A stone circle between Kunur and Karati was excavated. The weapons inside were elaborately ornamented.

At Ralliyar, a peculiar massive cairn was found and has been described in detail. Excavation revealed a large stone placed upright in the middle of the well under which were found urn pieces and miniature buffalo and human figurines in clay. Iron sickle and knife were also obtained.

333. WALHOUSE, M. J.

"Archaeological reminiscence" in *Ind. Ant.*, III (1874), pp. 33-36.

Archaeologically the Nilgiris possesses remarkable prehistoric remains, unique in themselves.

The Shavarai range contains a number of underground chambered tombs or kistvaens.

The author, who first believed that the Anamalai range was devoid of monuments has revised his opinion after the discovery of a large-holed

kistvaen. Presence of kistvaens in the Anamalai plateau has been referred to by Dr. Cleghorn in his book The forests and gardens of southern India. Kistvaens were also noticed near Pundi and Kurumalai villages.

334. WALHOUSE, M. J.

"Archaeological notes-Holed-Dolmens" in *Int. Ant.*, III (1874), pp. 277-78.

Purpose of holes in the slabs of kistvaens has been discussed in detail.

Graves were family sepulchres used by successive generations as the number of vessels containing bones etc., in them seemed to indicate. The apertures may have been intended as means for introducing fresh sepulchral urns when occasion demanded. These might have been holes for offering incense to the dead as well. This conclusion is based on the analogy of an Egyptian painting which shows incense being blown through a small aperture by way of long tubes.

335. WALHOUSE, M. J.

"Archaeological Notes-Miniature and prehistoric pottery" in *Int. Ant.*, IV (1875), pp. 12-13.

Miniature pots resembling playthings were found in Coorg graves. Fergusson is of the opinion that these were signs of a dying faith, the symbol superceding reality. The author has advanced arguments refuting Fergusson's belief. On the analogy of modern usage of small vessels it is said that the pots were in reality not miniature at all. Some pottery types resembled those from Brahmanabad, Sind. Interesting was a double spouted jar.

336. WALHOUSE, M. J.

"Remarks on the communications of Mr. J. H. Garstin and E. W. W. Respecting Dolmens and extinct races" in *Ind. Ant.*, V (1876), pp. 255-56.

The author says that the couches described by Garstin were really terracotta coffins and have been noticed and described by Capt. Newbold. He has compared one such coffin with the one from the mount of Gehrareh near Bagdad noticed by Commander Jones. A terracotta coffin from a tomb in Rhodes and another Etruscan coffin with its lid painted of a man and woman have also been described for comparison. This custom of interring in terracotta coffins, identical in shape, dimension and materials should have obtained in India, in Assyria, with a Mediterranean island as stepping stone and in Italy. Megalithic monuments corresponding to those in south India abound in the Siniatic Peninsula.

Dolmens are found much nearer the sea, e.g., Red Hills, near Madras, at Chataparambil on the Beypore river, etc.

Several legends given by Rev. Taylor in his *Analysis* of the *Mackenzie Manuscript* regarding the origin and use of these monuments have been mentioned.

337. WALHOUSE, M. J.

"Archaeological Notes–Curious Tombs and Entombments" in *Ind, Ant.*, VI (1877), p. 41.

In the Toda dry funerals besides, new constructions old stone circles are also used. These are known as *azarams*.

The ashes of the deceased are scraped and buried under a large stone at the entrance of the *azaram*. The custom of the kurumbar throwing a pebble into the existing dolmens or constructing a small one and throwing pebbles inside it on the death of a person, as also the custom of the Malai Arayans of Travancore erecting miniature cromlechs are mentioned, as parallels.

338. WALHOUSE, M.J.

"Archaeological Notes–Sepulchral customs, existing and prehistoric" in *Ind. Ant.*, VII (1878), pp. 44–47.

An extract from Col. Dalton's *Ethnology of Bengal*, describing the present day megalithic burial of a Ho or Munda is given. He finds, in central India today an unbroken connexion with the rites not very much varying from these which prevailed in the megalithic times. In all probability, the rites and monuments displayed an unbroken continuity. Nor to him, does it seem too strained an inference that the urn inside the megaliths in Britain could have been procured and placed in the manner and with the ceremonies almost resembling those current to this day in the most primitive region of the oldest country of Asia.

339. WALHOUSE, M. J.

"Some non–Sepulchral Rude Stone Monuments in India, Persia and Western Asia" in *Ind. Ant.*, VIII (1879), pp. 164–67.

The author is of the opinion that the following were non–sepulchral.

1. Trilithons mentioned by Hunter in his *Annals of Rural Bengal* (p. 172).
2. Cromlech at Pallikonda, twelve miles (19.3 km.) from Vellur (Vellore), Madras.

3. *Mani* or long heap of stones or lengthened cairns in Tibet and Tartary.

4. Huge stone worshipped in the temple at the foot of the Kot-Assa-Mahi, near Kabul.

The author says that in Persia also such monuments abound and they were not sepulchral.

340. WALHOUSE, M. J.

"Some vestiges of girl sacrifices, jar burials and contracted interments in India and in the East" tn *JAI*, XI (1882), pp. 415–23.

Narrating the legends about the sacrifice of girls in India, the author says that the urn burials contained the remains of sacrificed virgins and the iron weapons found therein were sacrificial weapons. Parallels of urn burials at Busheyr and other places as also of contracted burials have been cited.

341. WATSON JOHN W.

"A rude stone monument in Gujarat" in *Ind. Ant.*, III (1874), pp. 53–54.

While examining Darasar tank in Dharapura (on the Palampur–Abu road via Bhatta) a huge stone structure was discovered. This is known locally to the Kolis as *Mandawo*. This is, perhaps, the only megalithic structure found in Gujarat.

342. WHEELER, R. E. M.

"Brahmagiri and Chandravalli 1947 : Megalithic and other cultures in the Chitaldrug District, Mysore State" in *AI*, no. 4 (1948), pp. 181–308.

This is a report of a scientifically conducted excavation of a site with overlapping cultures–neo–lithic, megalithic and Andhra–revealing results of far reaching importance.

Ten megaliths, mainly two types, cists and pit circles, were excavated. Constructional and structural details are given.

The cists contained skeletal remains (long bones and skulls) of more than one person, all huddled together, with funerary pottery and other objects, iron implements, beads, etc, Port–hole was intended for the regular ingress for bones and offerings.

The pit–circles were approached by a shallow ramp closed by a functional door–slab. These pits were more than eight feet (2·4 m.) deep and

eight to twelve feet (2·4 to 3·6 m.) in diameter. Interment was similar to those found in cists excepting that in some, the pottery found in pits were not found in cists. The author is of the opinion that these pits could have either been specialized tombs for restricted social grade or in the alternative macerating pits.

On the basis of Satavahana and Roman coins, Rouletted Ware and historical events, ihe author has dated the megalithic culture at Brahmagiri to a date ranging between 200 B.C. to A.D. 50. Appendices on chronology and the distribution of port-hole cists are instructive.

343. WHEELER, R.E.M

Early India and Pakistan, Ancient Peoples and Places XII (London, 1959). Chapter VIII (pp. 150–164) relates to the south Indian megaliths.

The moribund megalithic cultures of Assam and Bastar, differing as they do in type and concept are excluded. Various types of monuments of the area as well as the extra-regional remains scattered in Karachi, Kashmir, etc.–are briefly described. The common factors uniting the heterogeneous complex of south Indian monuments are: (i) post-excarnated multiple interments; (ii) tools and weapons of iron indicating developed iron industry; and (iii) pottery of the distinctive Black-and-red Ware. The author is of the opinion that two cultural streams, one from the northern plains, bringinq iron, and the other from the Malwa plateau, with the Black and-red Ware united in the Deccan sometime in the fourth-third century B.C. Since there was no monsoon borne sea-traffic till the first century B. C. any western contact before that date should have been coastwise or overland. The author gives a provisional time bracket of third century B.C. to first century A.D. for the south Indian megaliths,

344. YAZDANI, G.

"Excavations" in *ARADN* 1915–16, pp. 6–10.

This is a short report on excavations of a few cairns and cromlechs at Maula Ali and Raigir. Structural details, furnishings viz., the usual megalithic wares, iron knives, daggers, etc., inside the burial have been mentioned. A metal cup, (79% copper and 21 % tin) was found in one of the tombs while another yielded a bell. Graffiti marks on the pottery from Raigir and other places were noticed. Their significance has been discussed. These marks resembled some of the *Pali* letters, old Cretan Mycenean, Etruscan and Libyan characters.

345. YAZDANI, G.

"Megalithic remains of the Deccan: A new feature" in *JHAS*, 1917, pp. 56–79,

The bones in the cists indicated a secondary burial. Cleaning the pottery revealed some peculiar marks scratched by a sharp instrument. The author examined the marks on the pottery in the Madras Government Museum as well and found that they were identical or analogous with the Raigir marks. Seven of these marks are identical with the letters in the Bhattiprolu inscription. These have been likened to the Egyptian hieroglyphs and might have been ideographs. Further the megaliths of south India resembled those of Etruria. It is possible that the early settlers might have brought with them the mode of megalithic tomb-building, speech and semi-hieroglyphs, which, perhaps, was gradually modified by local and foreign influence. The megalith-builders migrated via Makaran, where similar sepulchres and a dialect–Brauhui akin to Dravidian–is to be seen.

A corpus of one hundred and thirty-one individual marks with the description of the pots on which these occur is also given.

346. YAZDANI, G.

"Excavation (Hashmatpet)" in *ARADN* 1934–35, p. 10.

Two cairns were excavated and each enclosed a slab cist. Pottery and iron implements were found both outside and inside the cists but with no order in their arrangement. The large pots, which probably contained grains were found outside the cist, while cups, saucers and small pots which contained food and drink were found inside the cist.

Pottery was the usual megalithic wares. Iron implements consisted of a knife (or dagger), a sickle, a ring of an axe, prong of a hay-fork or ploughing implement. Three bronze objects, one of them a ferrule of a walking stick, were found. Bones in advanced state of decay included pieces of human skulls, teeth and feet portion of a calf.

347. YAZDANI, G.

"Note on the Survey of the Neolithic sites of the Western Talukas of Raichur District" in *ARADN* 1935–36 pp. 19–21.

A brief account of the explorations in District Raichur is given. Only at Benkal dolmens and cromlechs were found. On the hills rock-paintings were also noticed.

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348. YAZDANI, G.

"Exploration" in *ARADN* 1939-40, p. 44.

Hanamsagar Avenues: This extensive field of avenues, six miles (9.6 km.) from Rajan Kallur is situated in a large circular valley surrounded by hills. It contains about two hundred boulders arranged in parallel lines. On the southern side is a rectangular construction measuring one hundred feet by ninety-five feet (30.4 by 18.9 m).

Rajankallur: Rectangular construction was discovered to the east of the cromlechs. Avenues at Ivathalli, to the south east of Shahpur and those at Shahpur itself are also noticed.

349. ZUCKERMAN, S.

The Adichanallur Skulls, Bulletin of the Madras Government Museum (New Series), II pt. 1, pp. 1-24.

Two skulls from the Adichanallur burials were critically examined. One was an Australoid type exhibiting similarity of Dravidian cranial features and the other was Dravidian. Discussing the Australian-Dravidian relationship it is observed that the aboriginal south Indian was similar to the present day Australian native. The find of Dravidian skull would indicate that the mixture of invading people had taken place before the time of burial. In other words the remains could not be earlier than the Dravidians. Australian resident of Tinnevelly (Tirunelveli) was not the most primitive type of Indian, but was the descendant of Talgai-like race.

ADDENDA

350. DAS, G. N.

"Coins from Indian Megaliths" in *BDCRI*, VIII, K. N. Dikshit Memorial Volume (1946–47), pp. 205–208.

Coins recovered from the Indian megalithic tombs fall under two categories: (i) Punch-marked and (ii) Roman. The former are from Savadipalaiyam, Sulur, etc., in District Coimbatore while the latter from Nilgiris, Kodaikanal, etc. The significance of the finds bearing on the chronology of the megaliths has been discussed.

351. DEO, S. B.

"Megaliths in Maharashtra" in *Seminar Papers* (1969), pp. 27–36.

In Maharashtra concentration of monuments is in the Vidharba region, particularly on the eastern fringe. The main type is the stone-circle composed of a filling of compact clay and rubble going to form the cairn. Other types, though very rare are: cromlechs and menhirs. The author recapitulates the previous work done in this area, besides giving a gist of the excavations at Junapani. The material equipment associated with megalithic tombs in Maharashtra is indicative of contact with other cultures and regions particularly with south Indian megalithic and the Khandesh chalcolithic cultures. Thus for iron contact with south Indian megaliths, for pottery with south Indian megaliths and Iorwe and for beads with Kundanpur could be traced. The monuments could be dated to the beginning of the first millennium B.C.

352. DHAVALIKAR, M. K.

"A megalithic Plough-Coulter from Brahmagiri (India)" in *Seminar Papers* (1969), pp. 66–68.

See article no. 83.

353. DIKSHIT, K. N

"Megalithic Typology and Chronology—A Restatement" in *Samskriti* (1968), pp. 85–89.

Though a few types like urn-burial, rock-cut cave, cairn, etc., do not fall under the category of megaliths yet they have been included on the basis of identical cultural milieu. In India we are not in a position to present anything like megalithic chronology even in a loose sense of the term, as has been done in North Europe, in Sweden by Nordmann in 1935 or by Sprockhoff in 1938 for north Germany, who based their mor-

phological analysis of megalithic tombs on the simple classification of Montelius '*dosganggrift-hallkistor*' first formulated in 1874 at the Stockholm Congress. The Montelian system of three broad classification of megalithic structures was widely used in western Europe because it was not only a typological sequence but also presented a sort of chronological order.

On the analogy of classification adopted in north Europe, the following typology can be used in India: Dolmen, underground rock-cut passage caves, menhir, *topi-kallu*, *kudakallu* and Cist.

These can further be divided into:

(i) imported types-Dolmen, Rock-cut caves, Menhir and cist;

(ii) indigenous types-(a) imbibed from contemporary cultures-urn and extended burials; (b) *Topi-kallu* and *Kudakallu*; and

(iii) origin not established-cairn, cairn-circle, tumulus, etc.

The main types were imported but at the same time a few independent types were also innovated. The burial practices of the contemporary cultures made their impact on the megalithic practices as happened even in north Europe and West Asia. It is difficult to say anything regarding the types categorised under 'origin not established' because their intrusion from outside India as also their independent evolution are debatable.

The late phase of neolithic period overlaps with the megalithic culture in south India. For the first time in 1965 at Hallur a habitational area, near which dolmens abound and the cists in the neighbourhood of Bainapally (Paiyampalli) have been dated to the close of the second millennium B.C. and to the beginning of the third century B.C. respectively. The cist with a short passage at Brahmagiri, stone benches in the cist at Porkalam and Sulur, three pillars inside the circular cists supporting a cap-stone at Terdal and a cist of the 'cross-type' having pillars along the principal axis at Haliogali, might have received inspiration from the rock-cut passage caves of Kerala. The cist also overlap into the Andhra Period at places.

It would appear that dolmen in India, like that of Europe and North Africa is the forerunner in the chronological order; but at what interval these and other types entered is difficult to explain in the present state of our knowledge, for once a type came on the scene it persisted for a longer time as evidenced by the dolmens at Sanur.

354. DIKSHIT, K. N.

"The Origin and distribution of Megaliths in India" in *Seminar Papers* (1969), pp. 1-12.

Rethinking on the origin and distribution of Megaliths in India is warranted due to C-14 dates of Hallur and Bainapalli, (Paiyampalli) respectively giving a date range between the first half of the first millennium B.C. to fourth-third century B.C.

Indian megaliths appear to contain different traits introduced by different peoples at different times. While some of the types seem to have imported, quite a few have evolved independantly. Urn-burial and inhumation in pits are indigenous contributions of the neolithic-chalcolithic communities of south India. It is likely that the megalithc folk borrowed the ceramic types from these communities.

The pottery and iron implements encountered in the various excavations, both in habitations and burials in south India suggest three possible megalithic phases, viz., the dolmen, rock-cut cave and cist phases. Thus the white painted Black-and-red Ware would go with the first, the plain Black-and-red Ware with the second and the third, but the distinguishing feature being the presence of Russet coated Painted Pottery in discountable numbers in the second and its predominance in the third.

Megalithic iron technology might have been handicapped in the beginning due to the lack of knowledge of environment but in course of time along with pottery a steady increase in iron implements in the different phases is noticeable.

It is likely that the Western Asiatic Maritime communities practicing megalithic architecture entered south India through the Persian Gulf or Southern Arabia in the hope of founding a new Colony. They perhaps, reached the Western Coast towards the close of the second millennium B. C. and by and by penetrated the hinterland of Mysore and other regions of Deccan and south India.

355. GAUR, R. C.

" Megalithic Tradition in India " in *Seminar Papers* (1939), pp. 107-111.

From a study of the megaliths of the various regions, the author concludes that the megaliths are a crude form of *stupa*; votive *stupas* were originally meant for commemoration and reverence to the departed soul and for the peace of the living. *Satapata Brahmana* dealing with the

funerary monuments indicates that 'the graves should be made only in the barren soil, on a level ground inclining towards north where waters flow from a south-easterly direction. Moreover these monuments should always remain exposed to Sun and be easily approachable for worship'.

The structural pattern according to the *Satapata Brahmana* are: (i) rounded tumulus, cairn or *stupa* and (ii) cave type. These two should be decorated.

Megalithic caves, barrows, cairns and dolmens fall under the first category while the Malabar caves and other chamber-types in the second. *Satapata-Brahmana*, though of a late date, perhaps, records the surviving tradition.

356. GUPTA, S.P.

"Sociology of Burial Practices and Its bearing on the Problem of Megaliths" in *Seminar Papers* (1969), 99-106.

Excavation of burials reveal more or less identical burial practices in societies widely removed, spatially, ethnically and culturally. Likewise even in a single society varying practices are observed. Besides, other factors responsible for this varying practices, different standards of social behaviour and the 'concept of a full normal life' have to be taken into account for the proper interpretation of burial furnishings. Neither the different modes of interment nor the presence of different ethnic or racial elements in a particular burial in a given place would justify the postulation of diffusion or contact with other cultures. Variance in burial practices is due to the different religious sanctions governing the several circumstances of death and the varying concepts of 'full normal life'.

357. MAJUMDAR, G. G.

"Problem of Black and Red Ware: A Technological Approach" in *Seminar papers* (1969), pp. 90-93.

The Black-and-red Ware in India spreads from Rupar in the north to Brahmagiri in the south and from Rangpur in the west to Rajar Dhibi in the east. Outside India it is discernible in the black topped ware of Egypt.

There are five varieties of this ware while the connected problem is three fold, viz., (i) the genetic relationship, if any, in this chronologically and spatially distributed ware, (ii) the technique of manufacture and (iii) the origin of the technique-whether indegenous or diffused.

Outcome of the experiments are :

(i) Ordinary kiln without any special arrangements can only produce either wholly red or wholly black pots, irrespective of its position in the kiln.

(ii) double firing-either firing the pot red/black first and again refiring the same into black / red with special arrangements would be necessary to produce this ware.

The megalithic Black-and-red Ware was produced by the second process. Black and grey might be due to some unfavourable position of the pot in the kiln.

358. NAGASWAMY, R.

"Ima Chinnangal" (Burial Monuments. In Tamil) in *Kai edu* (1968), pp. 108-111.

The author describes the several megalithic monuments in south India and the burial furnishings within. Similar monuments are found in the Mediterranean countries, Europe and England. There are some similarities between the megaliths of south India and those of the West. Some scholars believe that the megalithic folk migrated from the West while a few hold the view that they were indigenous people. The beginning of this culture would go back to 1000 B.C. while the terminal date would be c A. D. 500. *Sangam* works particularly, *Purananuru*, *Ahananuru*, *Pattupattu*, etc., are full of references to burial monuments. The author explains a few practices mentioned in these works.

The usage of the terminology for the various types of burials as found in the early Tamil literature is noteworthy.

359. PANDE, B. M.

" Adim Kasmira ke 'Garta-vasi' " (Pit–dwellers of Prehistoric Kashmir. In Hindi), in *Samskriti* (1969), pp. 451–462.

The author has described the megalithic phase at Burzahom, District Srinagar, Kashmir, besides the other megalithic sites in the Valley. The cultural repertoire and burial architecture of the pits show a continuation from the earlier neolithic phase. The use of large sized stones in the neolithic burials and its continuation in the megalithic has led the author to believe that megalithism in Kashmir has evolved out of the earlier neolithic practices.

360. RAMACHANDRAN, K. S.

"Megalithic Rock-cut Caves and Their Parallels Outside India" in *Seminar Papers* (1969), pp. 59-65.

In India rock-cut cave tombs excavated into the laterite bed-rock are restricted to Kerala and are mostly distributed in the Districts of Calicut, Cannanore and Trichur. These are single, double and multichambered comprising a rectangular entrance shaft, doorway/doorways and the chamber/chambers proper. The shape of the chambers vary from circular to rectangular. Inside are found burial furnishings *viz.*, pottery, iron objects, etc., which are identical with those found in other varieties of megalithic tombs in India.

Outside India, such tombs called shaft-graves are common in Palestine and Cyprus-Megiddo, Gezer, Jericho, Tell Ajjul, Tell Fara, Lapithos, Ajios Jakavos, Vouni, etc , are some of the typical sites. These date from the Proto-Urban period (Palestine) and Bronze Age (Cyprus) to Iron Age and after.

There are some comparable affinities between these graves outside India and their counterparts in Kerala. They are :

1. Access to the chamber proper through a vertical shaft and rectangular doorway.

2. Occurrence of steps, ledges or foot-holds in the entrance shaft. In this respect the Cypriot graves and those of the Iron Age at Tell Fara are nearer the Kerala specimens.

3. The presence of pillars supporting the roof both in Kerala and Palestine examples.

4. Basic unity in plan and elevation of cave tombs, despite minor deviations in the disposition of the chambers. Here, again, the Cypriot examples show more affinities with the Kerala ones.

Though there is a chronological gap of 1700 years between the tombs of Kerala and those outside India recent research has pushed back the date of megaliths in India thus reducing the gap considerably. Contact with Kerala might have taken place any time between 1000 B. C. and 500 B. C. The variance in burial furnishings is perhaps due to the fact that the authors of the Kerala monuments accepted the ceramic tradition of their new home and having mingled with the local population and assimilated not only their traits but also their funerary tradition.

361. RAMACHANDRAN, K. S.

"Chronology of the Indian Megaliths-Some Considerations" in *Puratattva*, no. 3 (1969-70), pp. 107-109.

Taking into consideration the conventional sequence dating and C-14 method the author has arrived at the following conclusions.

1. Conventional methods give a date range from the third century B. C. or a little earlier to the fourth century A. D.

2. Radiocarbon dates of Paiyampalli, Kotia and Halingali give a central date range well within the fourth century B.C. for the earlier side.

3. Radiocarbon dates of Hallur are open to question for (i) they pertain to habitational area unlinked with the burials through common bonds and (ii) the dates themselves are incompatible with and against the accepted principles of dating through stratigraphical sequence.

4. Iron diffused into India from two points, one from north and the other from a point of contact on the west coast.

362. SARKAR, H.

"Megalithic Monuments of the Lower Krishna Basin" in *Seminar Papers* (1969), pp. 12-26.

The Paper is divided into six headings *viz.*, previous work, excavation of megalithic sites, classification, parallels in earlier tradition, chronology and an emerging picture. Results of the excavations at Nagarjunakonda, Yeleswaram, Kesarapalle, etc., are recounted.

At Nagarjunakonda, pit-circles were the predominant type while slab-cists were maximum at Yeleswaram. At Kesarapalle, excavation of habitational deposit revealed interlocking between the chalcolithic and the megalithic cultures. On the basis of surface indications the monuments can be grouped into (i) stone-circles around cairn heaps, (ii) cists and (iii) cists without any circles. According to internal evidence the megaliths can be classified into pit-circles, urn-burials-both associated with stone-circles; and slab-cists with several variants, *viz.*, completely buried, cists with slabs-projecting above the ground, with port-hole on the eastern or northern orthostat, transcepted-cists and cist within a cist. In the Basin the cist show a chain of development. The third classification based on the mode of disposal are two: post-excarnated disarticulated and fractional and the complete inhumation. North-south orientation of the dead body was the normal feature. An assessment of the megalithic

burial modes leads to the fact that this tradition in the Lower Krishna Valley was the outcome of a commingling of divergent traditions, old and new. The culture, here, falls within the time bracket of fifth century B.C. to first century A.D.

In conclusion the author observes :

1. Cists are family and clan or settlement vaults.

2. Structural variations and different modes of disposal indicate the presence of divergent groups.

3. Cists and dolmens came late. Their association with the dominant group eclipsed the influence of other groups in the sphere of material culture.

4. Cist was brought here by a people using Black-and-red Ware and iron tn the middle of the fifth century B.C. Cists are concentrated in the grantic belt (12°-16°) and moved from the south-west into the Valley. Urn-burials are confined to the eastern and south-eastern coasts.

5. Difference in monuments is indicative of different cultural elements.

The megaliths are not the product of one people : new traits and old funerary traditions mingled and gave rise to a complicated pattern of funeral repositaries.

363. SEN, D. K.

"Observations on the Megalithic Skeletal Remains." in *Seminar Papers* (1969), pp. 94-98.

The purpose of the paper is to describe the population or populations responsible for the so-called 'Megalithic Culture'.

Recounting the evidence of skeletal remains from previous excavated megaliths, the author says, that earlier workers have postulated racial and ethnic theories on the basis of meagre data which are not sufficient for applying statistical methods; typological method, however, is defective. Re-examining the date on statistical method, the samples show different traits varying from 18-9; the traits include maximum length-breadth-height of skull, minimum width of the forehead and height and width of nasal aperture. The values are compared with Harappan data which shows larger variability in almost all the traits excepting the nasal height-width in the megalithic remains. These variations are of the usual degree in any homogeneous population. Variations in other dimensions may

result from (i) a mixture of various morphological characters but not differing much in their nasal traits and (ii) due to extensive reconstructions of skulls. Large number of undistorted samples are required for any definite conclusion.

364. SHARMA, Baijnath.

" Megaliths in Hoshangabad, Narsinghpur and Jabalpur Districts of Mahakoshala" in *Seminar Papers* (1969), 43-45.

Megaliths were noticed in the following areas :

1. Around Madan Mahal hills near Jabalpur
2. Hilly areas near Bheraghat
3. Track between Piparia and Pachmarhi
4. Between Parchmarhi and Bara Mahadeo and
5. Near Tamia.

Menhirs, stone-circles, stone seats, hoodstones, dolmens, cairns, cairn-circles and rock-cut caves are main types observed.

365. SINGH, Purshottam

' Megaliths from North-Western India" in *Seminar Papers* (1969), pp. 46-58.

Megaliths occurring in the Aravalli Range, Himalayan foothills, Kashmir, Sind and Baluchistan are dealt with. Predominant types in the North-Western India are cairns and stone-circles. Menhirs in Kashmir, cists in the Himalayan foothills, cromlechs in Sind and Rajasthan have local distribution. Skeletal remains from these megaliths are meagre. Modes of disposal observed in these monuments are : (i) extended inhumation at Burzahom, (ii) incomplete fractional burials in the cairns of Baluchistan and Himalayan foothills and (iii) post-cremation interment in Baluchistan and Rajasthan. The megaliths of North-Western India and south India have no relationship whatsoever. As regards chronology, the author adheres to the assessment of earlier writers. Thus, as per Stein, Ziwanri (Jiwanri) and Baluchistan monuments belong to the early centuries of the Christian era while Gordon and Banerjee would place them between 850-400 B.C. This time bracket cannot be extended to other regions.

366. SOUNDARA RAJAN, K. V.

"Megaliths and black and red ware" in *Seminar Papers* (1969), pp. 69-89.

The problem is dealt with under the following headings: (i) the role of pottery in megaliths, (ii) the cultural inheritance of the Black-and-red Ware, (iii) the pattern of provenance of the earliest sepulchral monuments of India and (iv) the chief features of 'Megalithic' pottery in megaliths and habitations.

The results of the study are as follows :

1. Megaliths and Black-and-red Ware have no incipient co-existence in India.

2. Megaliths however, are found mostly in Black-and-red Ware associated contexts and in Iron Age strata.

3. The typological and regional forms of megaliths differ from region to region.

4. Megalithism might have arrived into India from more than one source but only from the West and equally by overland route, along the coasts or across the sea.

5. By around 300 B.C. it is already well established in a large part of lower southern peninsula.

6. The shapes of pottery, megaliths, coffins, etc., recall analogues in Egypt, Palestine, Crete, Persia and Arabia.

7. Megaliths in India were seemingly the sociological index of non-Aryan people given to burial, as different from cremation, which was an Aryan trait in India.

The megalithic types of Uttar Pradesh are not genetically related in tomb-architecture with the peninsular megalithic types.

367. SUBBARAO, B.

"Archaeological Exploration in Bellary" in *BDCRI* K. N. Dikshit Memorial volume (1946-47), pp. 209-224.

Besides other vestiges, megalithic monuments were noticed to the north of the village of Sanganakallu, at the foot of Sandamma Hill and at the foot of the 'North Hill'. Types observed are stone-circles and menhirs. Apart from these stones arranged in a rectangular fashion was seen at 'North Hill'.

368. SUNDARA, A.

"A New Type of Neolithic Burial in Terdal, Mysore State" in *Puratattva*, no. 3 (1969-70), pp. 23-31.

The author describes the excavation of a neolithic barrow at Terdal. Nearby this barrow are, on all sides, number of megaliths not found in any of the other known site in the Deccan and south India and thus are unique.

The barrow unbound by a circle, is roughly circular, 6 m. in diameter on an average and about 10–12 cm. high in the centre imperceptibly tailing off to the present ground level. Cairn packing consisted of red earth and rubbles of sandstone to a thickness of about 60 cm. in the centre and was found immediately overlying a burial pit cut in the sandy red earth accumulated in a hollow of the sandstone rock. Inside filling was clayey and yellowish. The pit was ovaloid in plan, 1·80 m. in length 40–60 cm. in width and 30 cm. deep. Orientation of the pit was east-north–east–west–south–west ; the pit itself being wider at the east.

Skeletal remains comprised a few fragments of skull, bits of long bones and a front tooth; the fragments were laid in an articulated fashion. Attendant furnishing inside consisted of four broken pots and a copper bangle. The pottery was all grey ware of Maski neolithic fabric. Judging from the context of the microliths found inside the pit it is difficult to say whether they formed part of the burial goods. A few megalithic pot-sherds were collected from the cairn packing.

At Halingali from the excavated barrow concealing a pit filled with rubble and earth nothing was recovered. However, at a depth of 1 m. a few neolithic grey ware sherds were obtained.

Finally the author concludes :

1. Skeletal remains at Terdal are fractional but laid in an articulated fashion.

2. Pottery from the barrow is entirely neolithic in character.

3. Copper would suggest the chalcolithic stage of the culture represented by the burial which is otherwise neolithic.

4. Raising a cairn similar to a megalith is unique, suggesting the burial was after the arrival of the megalithic folk. But it may possibly belong to the overlap period.

Chronologically it may belong to the phase immediately preceding the Iron Age megalithic phase i.e., late phase of the neolithic. The date assigned to the barrow is 1100–1000 B. C. Incidentally it is the earliest megalithic type in Karnataka.

369. TRIPATHY, K. C.

" Megalithic Cultures of Orissa " in *Seminar Papers* (1969), pp. 37–42.

The megalithic monuments of north-east India are commemorative rather than sepulchral and they have lost their funerary significance by getting associated with unrelated memorial feasts known as " gota mela ". In Orissa this living culture is mainly practised by the Gadabas, Bondos and Mundas, in the districts of Koraput and Keonjhar. These tribes belong to the Austric linguistic group. Yet slight ethnical difference is present. Ethnological and archaeological evidences lead to the conclusion that migration of megalithic folks occurred in neolithic times. The relationship of these monuments with the prehistoric antiquities found here is not yet established. Likewise dating these is also difficult. Only excavations and a comparative study of their typology and other associated material would throw some light on the megalithic problem of eastern India.

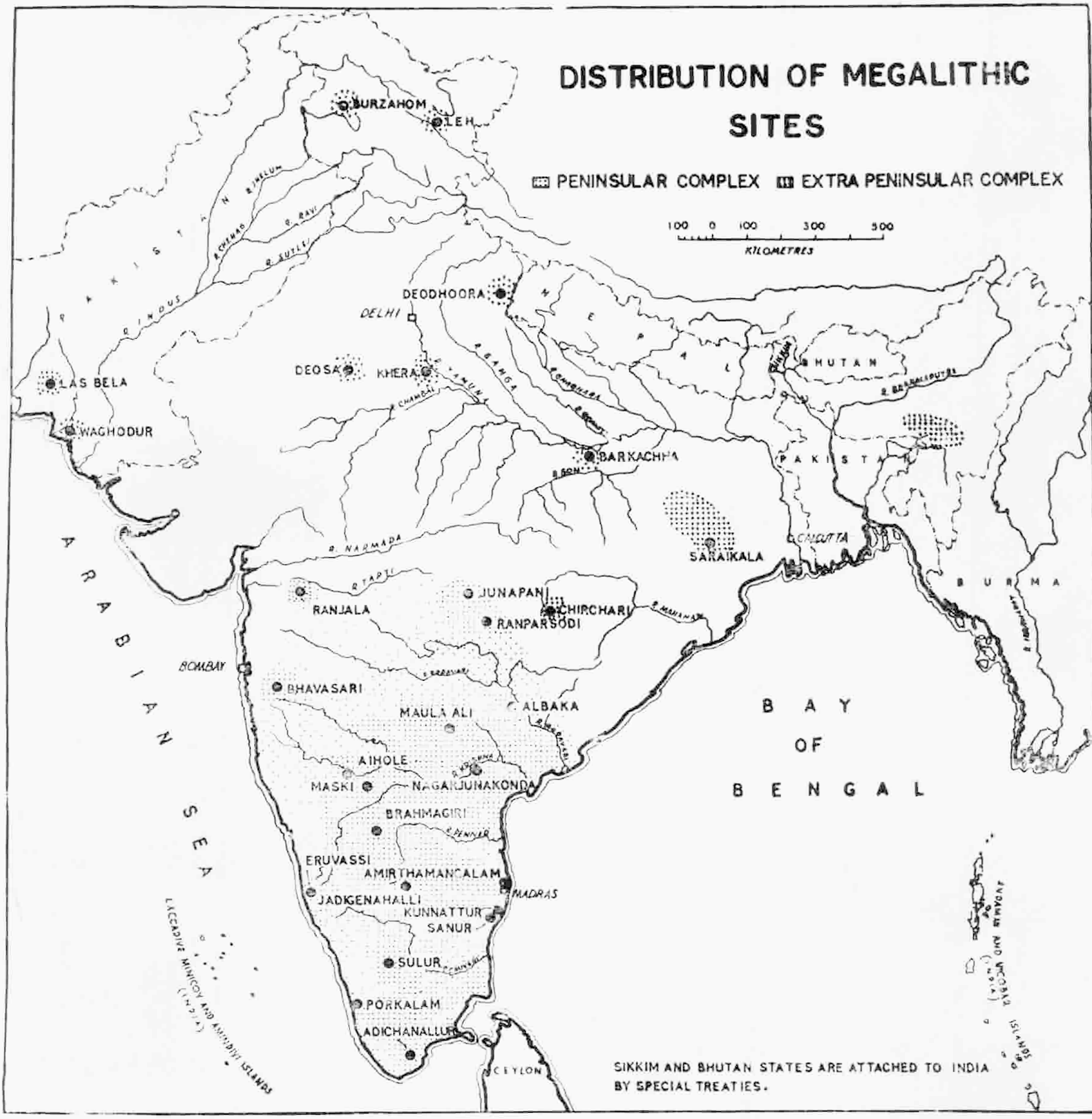


Fig. 1 Map showing the distribution of megalithic sites into peninsular and extra-peninsular complexes.

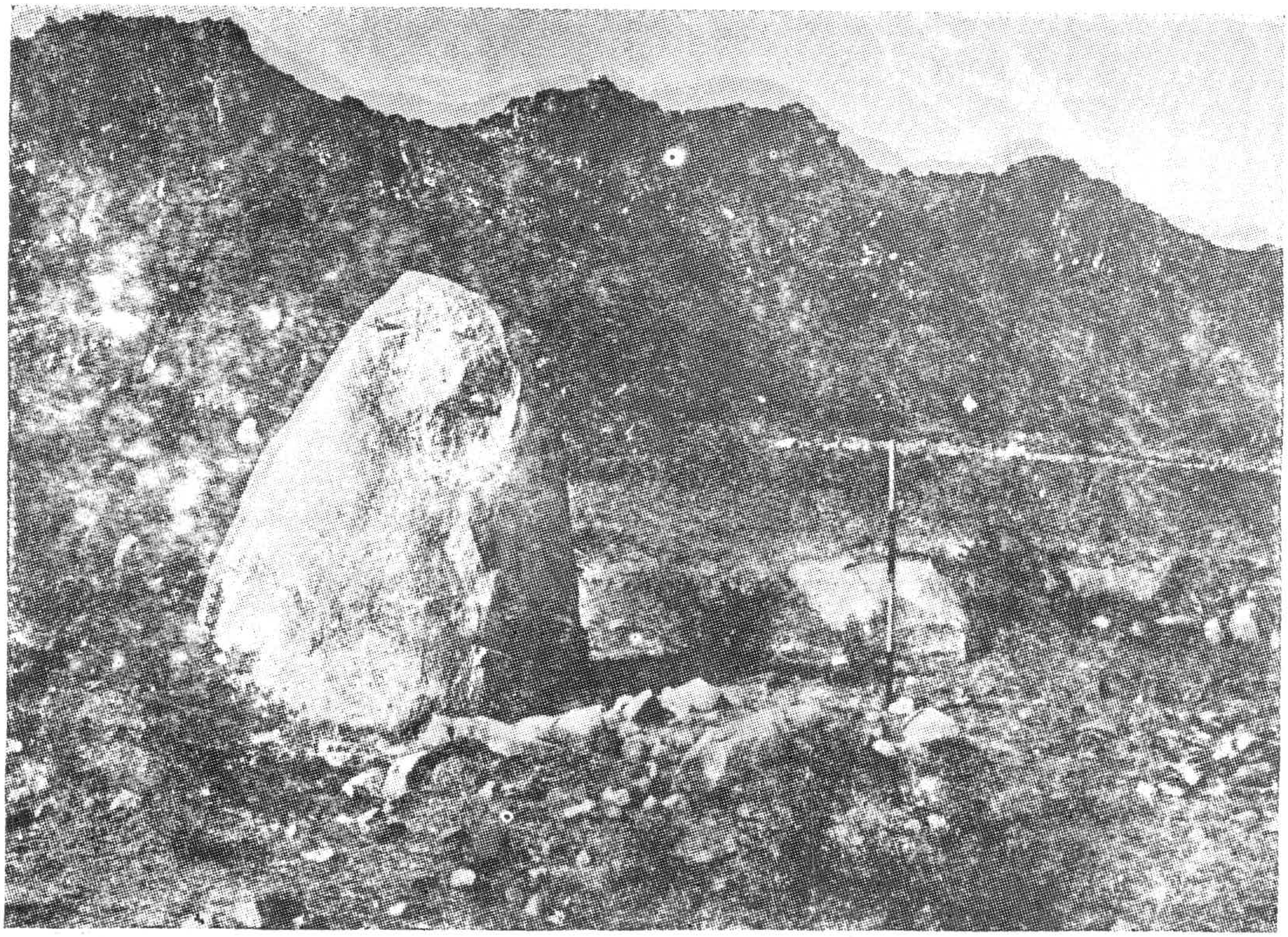


Fig. 2 Maski: a menhir before excavation.

Fig. 3 Manamai: a stone-circle.

Fig. 4 Tattanur : Dolmenoid-cist-D1 with an entrance on the east.

Fig. 5 Mamandur : Dolmenoid-cist-D2 type.

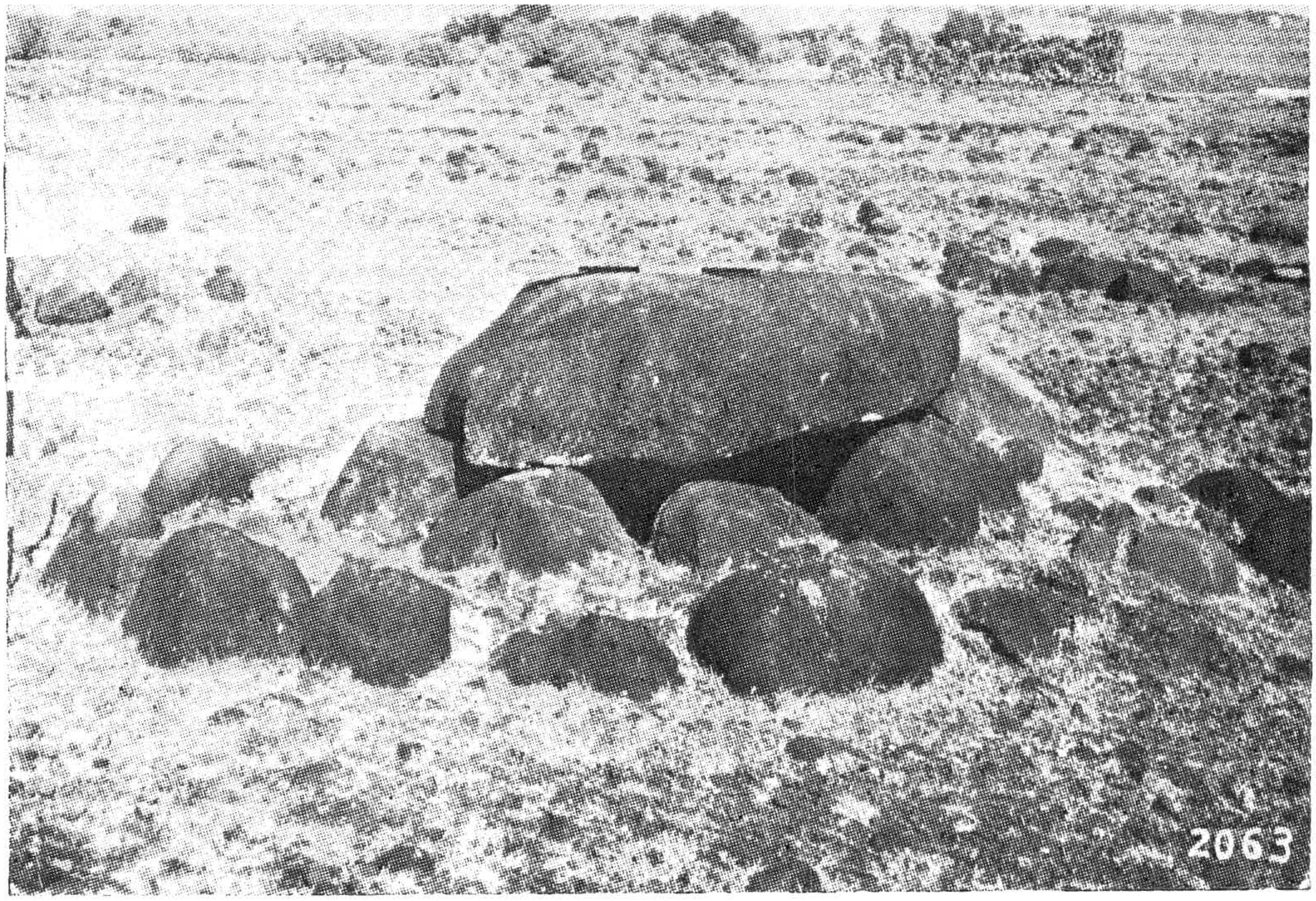


Fig. 6 Kalanipakkam : Dolmenoid-cist-D2 type with multiple orthostats carrying the capstone.

Fig. 7 Vaiyavur : Dolmenoid-cist-D3 type

Fig. 8 Amirthamangalam: burial urns in an exposed section

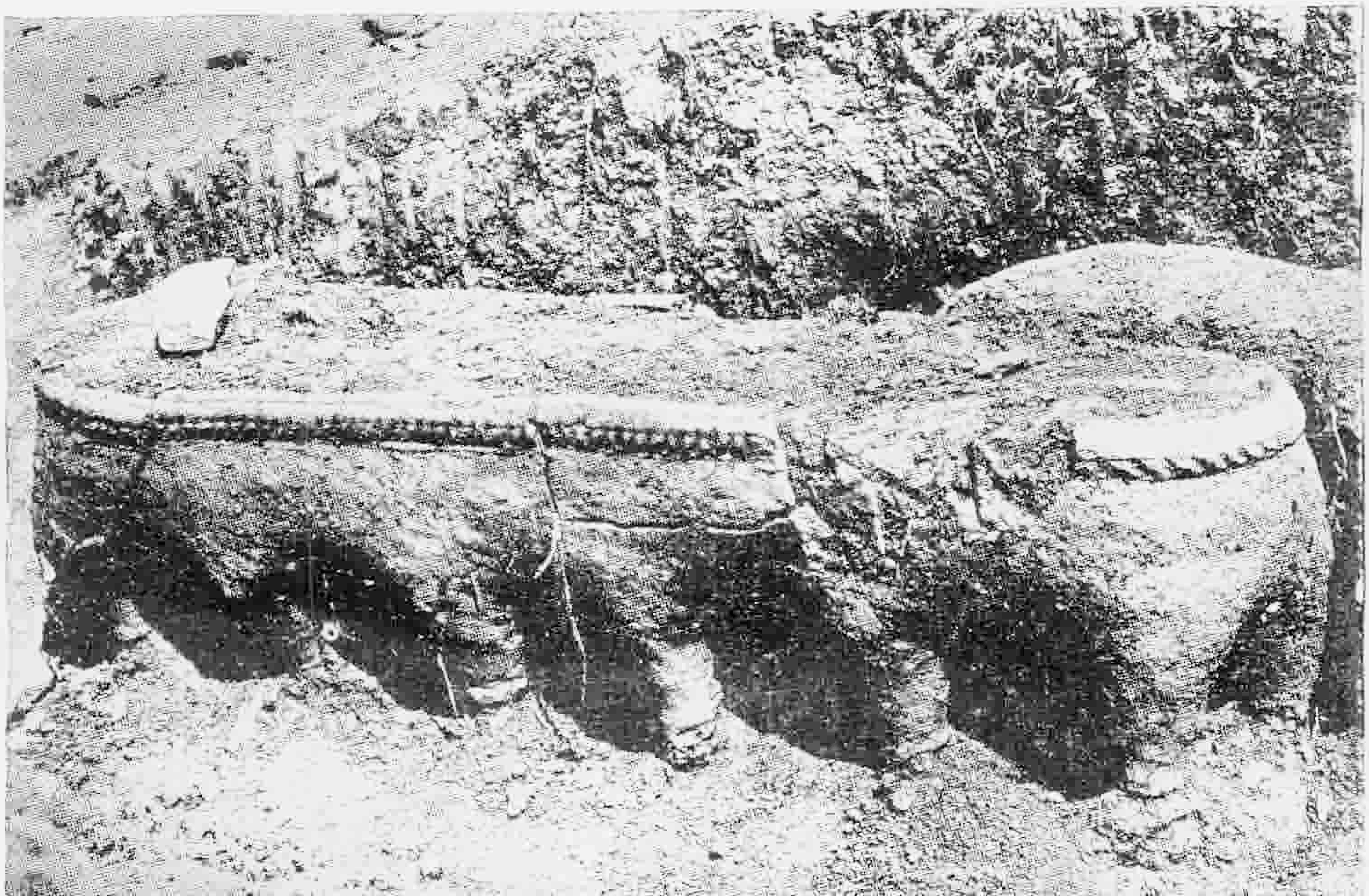


Fig. 9 Pallavaram: a terracotta legged sarcophagus.

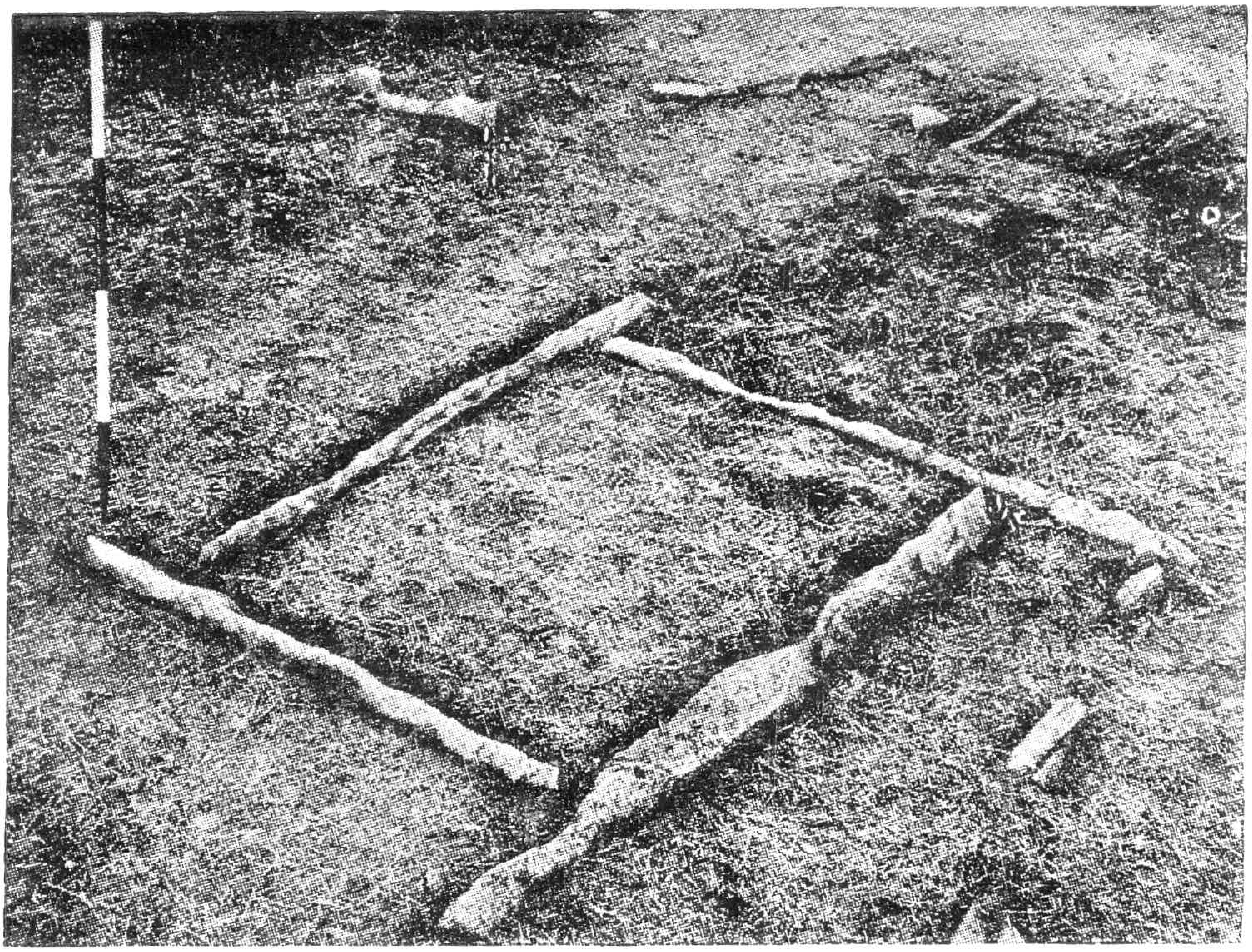


Fig. 10 Brahmagiri : a slab-cist, before excavation.

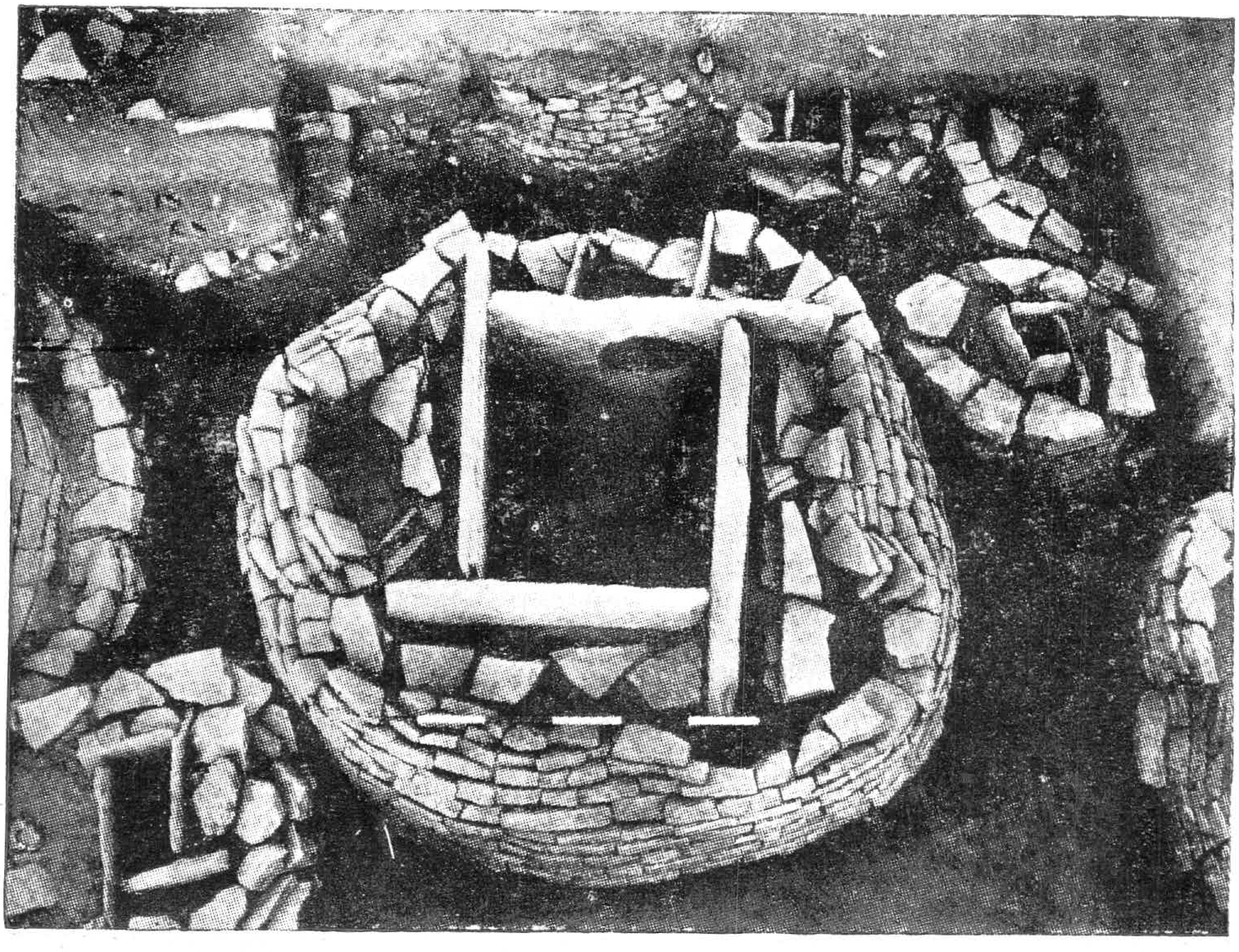
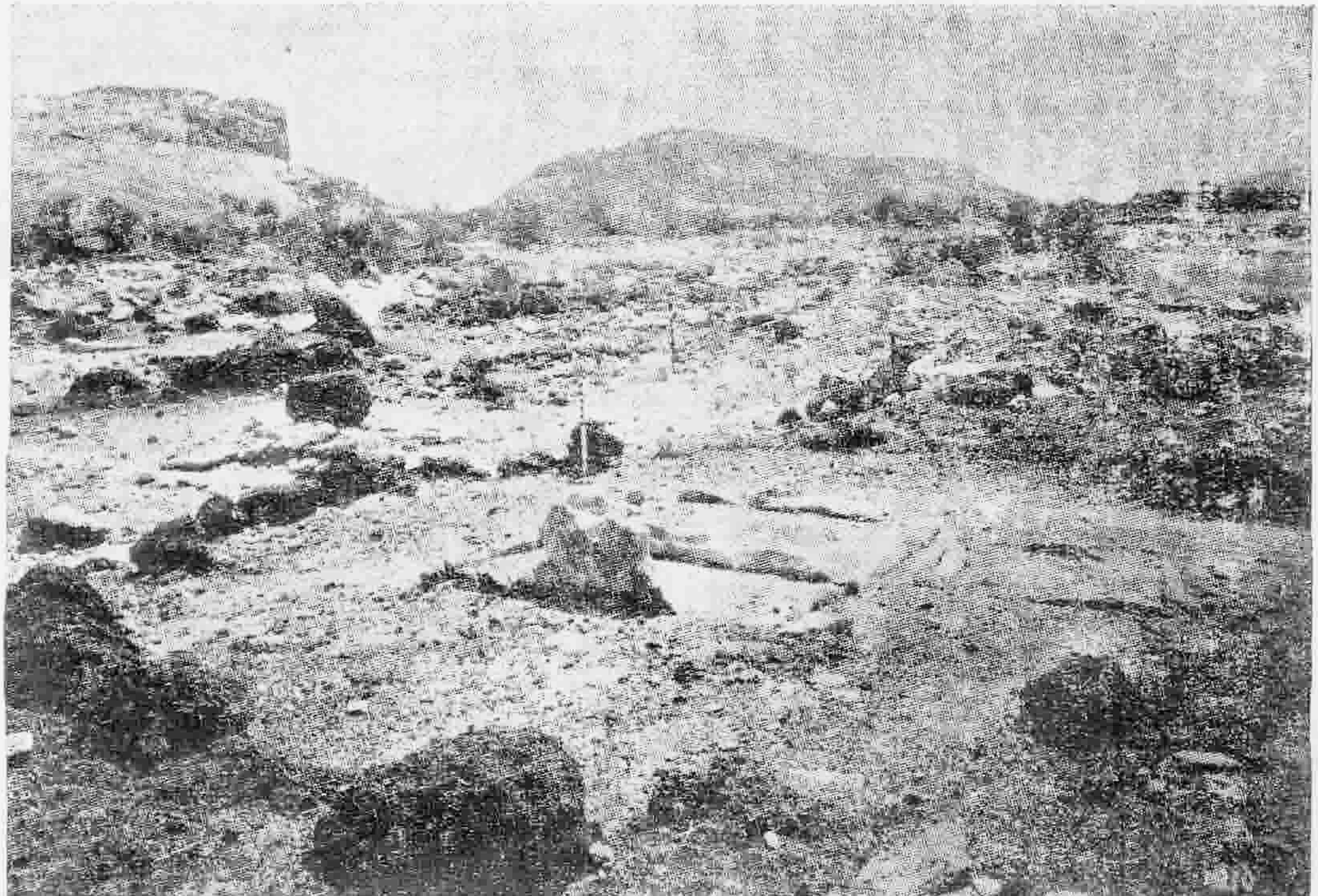


Fig. 11 Brahmagiri : a slab-cist, after excavation, showing the details of construction.

Fig. 12 Yeleswaram : a twin-cist with a common partition-slab and the contents within.



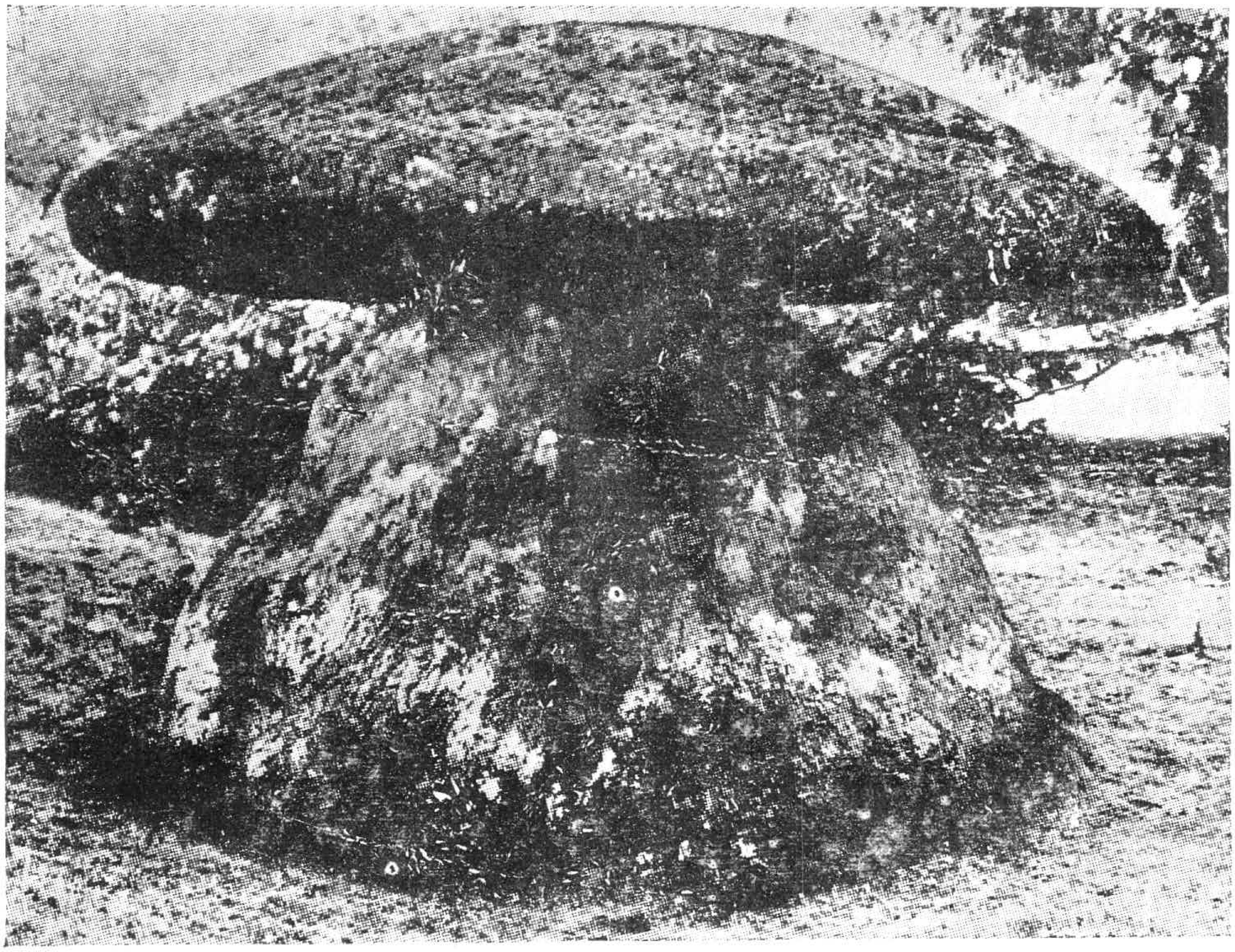


Fig. 14 Cheramangad : Topikal.

Fig. 15 Cheramangad : Hoodstone-Kudaikallu.

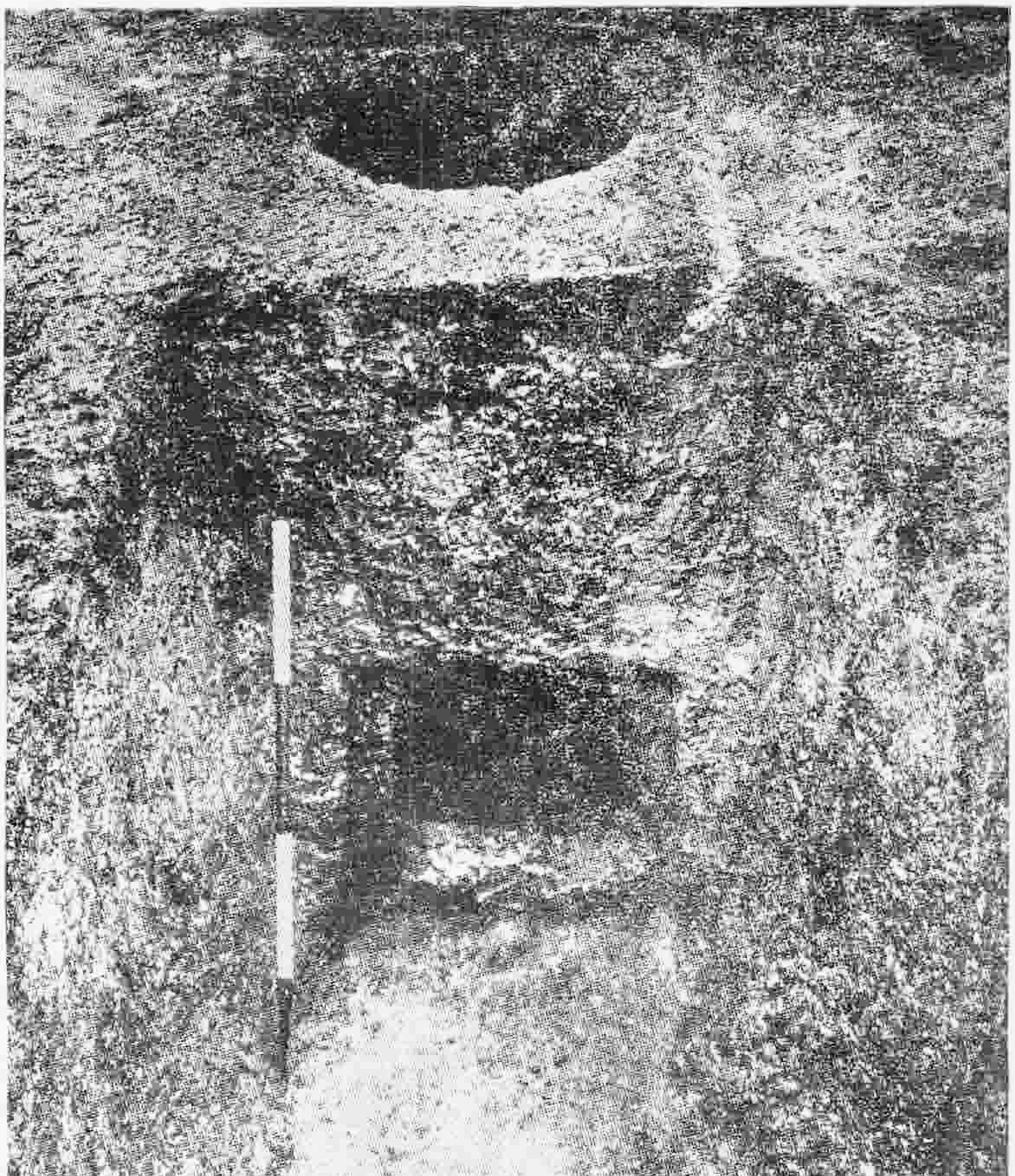


Fig. 16 Kadanisseri: rock-cut cave.

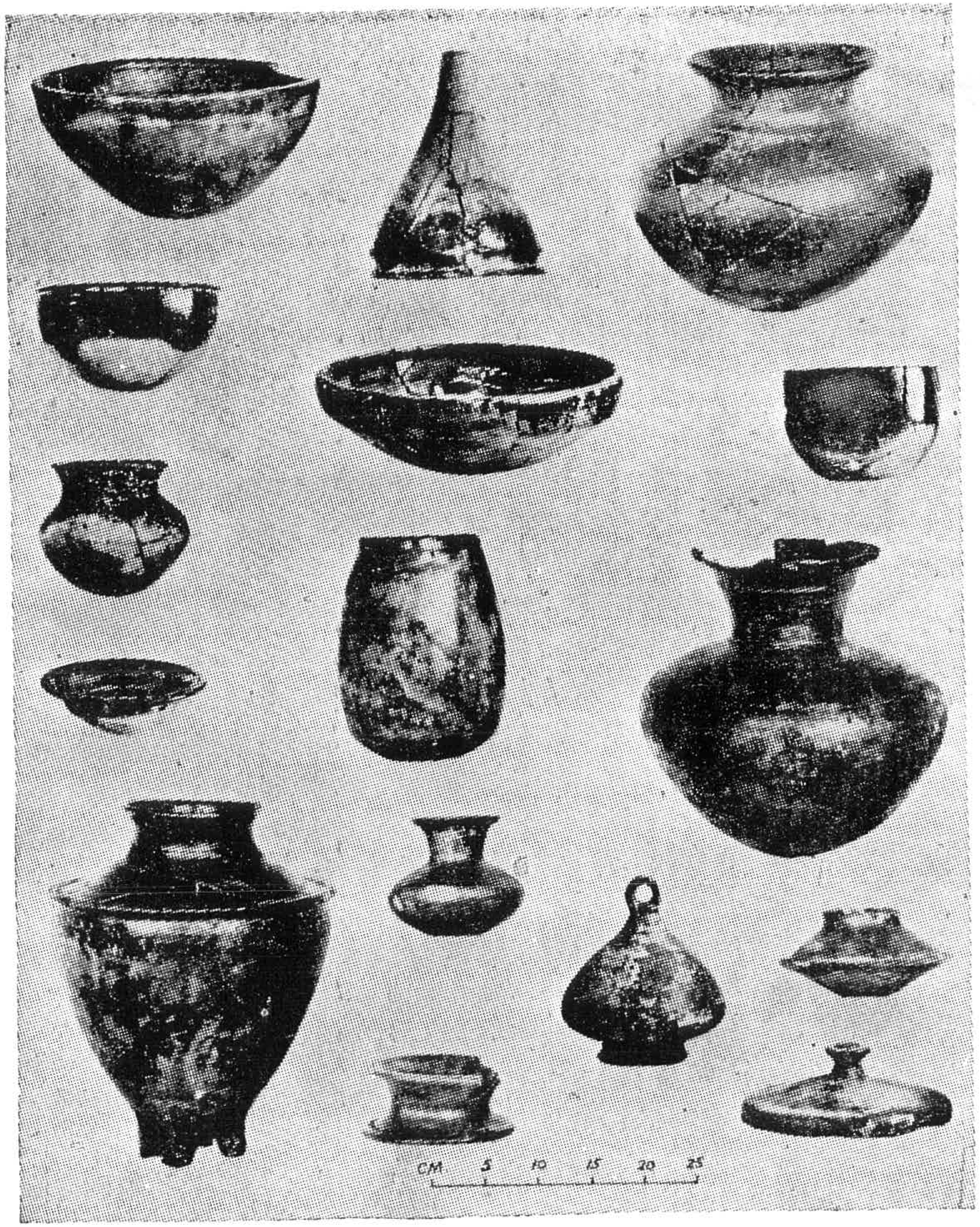


Fig. 17 Representative megalithic pottery shapes.

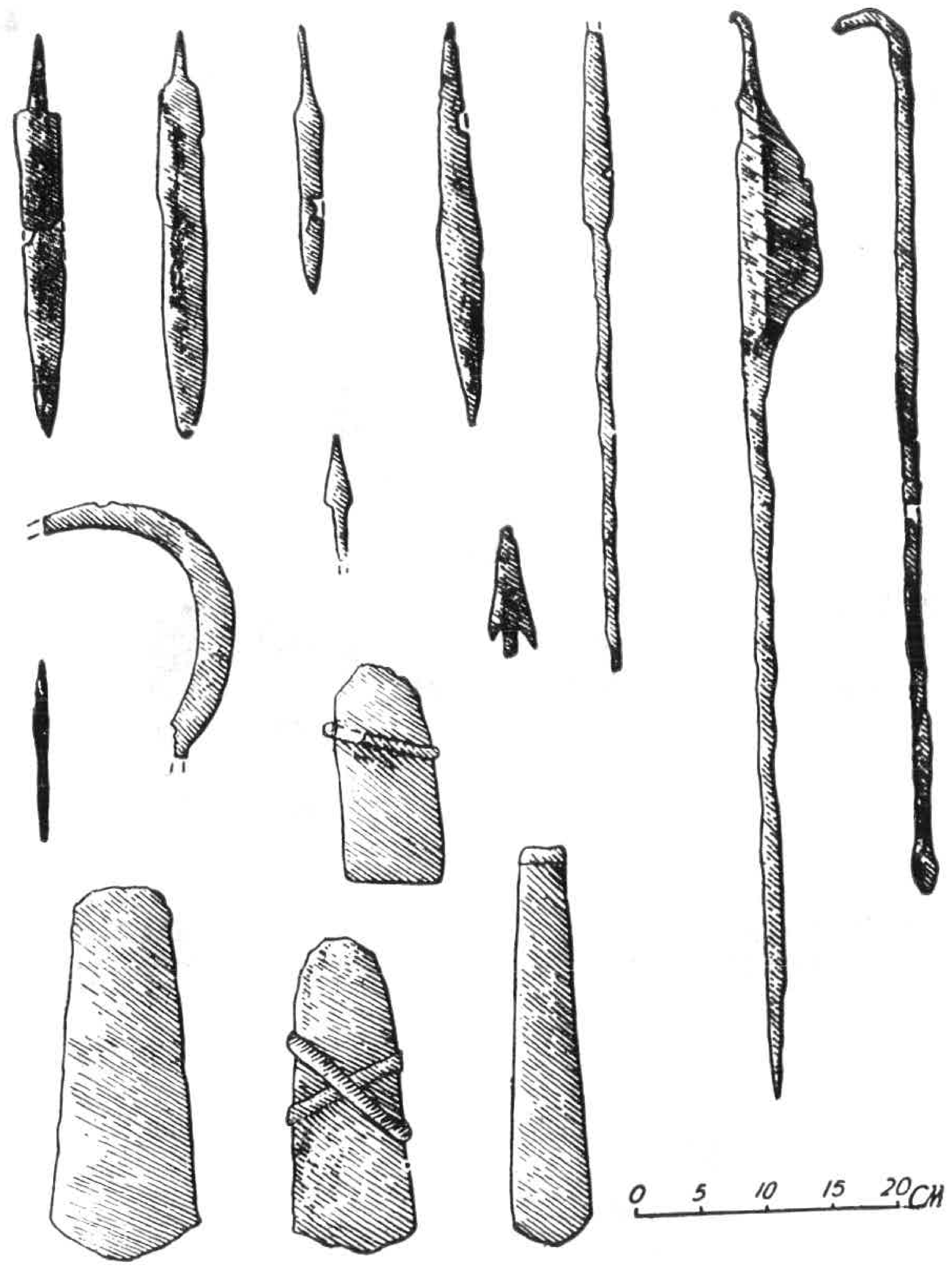


Fig. 18 Representative megalithic iron objects.

Standardized nomenclature is a desideratum for any research work; more so with regard to the megaliths in India. For, ever since these monuments were noticed, each author had been using his own terminology, often without regard to that of others with the result that the same type of monument was termed differently by each. This state of affairs continued till about the second half of this century, when Krishnaswamy realising the long felt necessity introduced a standardized nomenclature, which since then has been adopted by the Archaeological Survey of India and others.

Relevant definitions of megalithic types as set out by four among the pioneers in this study *viz.*, Krishnaswamy, Taylor, Mackenzie and Breeks have been tabulated separately. These have been gathered from the works of the respective authors. As far as possible the language of the authors has been retained so that the reader could easily follow what the original writer wanted to convey. An attempt has also been made to correlate the definitions of other authors with that of Krishnaswamy in order that one could easily understand and compare with the earlier published materials.

COMPARATIVE TABLE OF NOMENCLATURES

KRISHNASWAMY	TAYLOR	MACKENZIE	BREEKS
Alignment: A series of menhirs planted in lines on definite pattern			
Avenue: Two or more alignments approximately parallel with each other	*Avenue:* Diagonal lines or parallelograms. These are large rocks which have been placed regularly in diagonal lines with open squares between each four rocks.		
Barrow: Barrow or earthen mound concealing urns or sarcophagus. Usually the site is indicated by the low spread of chips of granite over individual barrows.		*Barrow:* All mounds raised above the level of the ground without any circle of stones to mark the edge.	*Barrow:* A mound of earth encircled by a ditch and sometimes also by one or more circles of stones.
Cairn: A mound of heaped up stone rubble.		*Cairns:* Heaps of small stones whether surrounded by a circle or not.	*Cairn:* A circular enclosure formed by a rough stone wall or heap or single stones.
Cairn circle: Comprises of a stone circle surrounding a cairn. Beneath the cairn is found a single, multiple urns or a legged terracotta sarcophagus.	*Cairns and Barrows:* They consist of circles of large stones, sometimes single, sometimes double enclosing a space under which is a grave or graves, stone-chest or chests in which bodies and sometimes funeral urns have been deposited. (Also see *Cist* of Krishnaswamy)	*Circles:* Circles of stones where the enclosed area is on level with the surrounding ground; the size of the stones which mark the circumference being immaterial.	*Barrow:* See above.

1	2	3	4
		Tumuli: All mounds raised above the level of the ground having a circle of stones.	
Cist: A cist is a box-like grave built of stone slabs normally below the natural surface of the ground. Usually but not necessarily, it consists of a single stone of orthostat for each side and a cover or capstone on its top. It may also have a floor stone. One of the orthostats has sometimes a circular, semi-circular or trapezcidal opening which is known as port-hole. Such a cist is known as 'port-holed cist'. Variant is the transcepted cist with antechamber. A port-hole is present in the main cist wall. The septum dividing the cist into roughly equal halves is always oriented east-west. One half, not approached through the antechamber, is again divided into upper and lower by a horizontal slab with separate port-holes one below the other for approach. It is demarcated by stone circles. When the cist is underground it is covered by a cairn. This type is restricted to the Pudukkottai region.	*Kistvaen:* Erections smaller than cromlechs constructed on the same principle but closed on all sides. In some of them a circular hole, six to nine inches in diameter exists in one of the sides.	*Kistvaen:* Any structure found under the present surface of soil in barrows, tumuli or circles.	*Kistvaen:* A vault of large stone slabs closed on every side but sometimes with a round hole in one of the walls, with or without a surrounding stone circle or tumulus.

1	2	3	4
Dolmen : A single slab of stone supported by several orthostatic boulders or slabs built on the surface of the ground in such a way as to enclose a space or chamber beneath the capstone. It may or may not be wholly or partially covered by a barrow or cairn. A dolmen may be with or without port-hole. A number of dolmens surrounded by a single stone circle is known as multiple dolmens.	*Cromlech :* Constructed with three stones or slates placed edgeways in the ground enclosing three sides of a square or parallelogram as supports or walls with one at top as a cover, usually larger than others and having one side open, usually north or north-west. Normally there is also a flooring slab.	*Dolmen :* Stone structures above or partially above ground without the circle of stones.	*Cromlech :* Similar enclose like kistvaen, open on one side.
Dolmenoid-cist : A burial chamber made of stones both for the sides and the cap, the whole circumscribed by a single stone-circle or sometimes by double stone-circles. Variants : (a) In the northern lateritic region of Chingleput District it is made of dressed lateritic boulders to form a rectangular chamber, Dressing is only on the inner side. Sometimes the cist-chamber is visible one or two feet above the ground level. It is more a cist than a dolmen ; (b) granitic rocks are used both for chamber and bounding circle. Capstone rests on the orthostats, which may be single or multiple.		*Cromlech :* Stone structures above or partially above ground and which are surrounded by a circle of stones.	

1	2	3	4
The whole monument resembles more a cist than a dolmen. When the chamber is low the filling covers the entire capstone. (c) The rude stone orthostats are almost completely buried so that the capstone poised upon them appears at ground level. Cairn packing sometimes conceals the whole including the capstone.			
Hood stone: A dome shaped dressed lateritic stone resting with its flat face directly on the ground level. Local name is *Kudaikallu.* Multiple hood stones are those where several hoodstones at ground level are surrounded by a circle of clinostatic lateritic stones, all tending to converge at the top.			
Menhir: A single monolith set up as a rule at or near a burial spot. The monolith may be small or gigantic in height with its base fixed in the earth.		*Menhir:* Standing monolith whether plain or ornamented.	
Rock-cut caves: Caves scooped out into the lateritic rock. The dome is vaulted. The plan is either oblong or circular.			

1	2	3	4
Sometimes benches are found. In a few cases central pillar is also noticed. *Topikal :* Each topikal rests upon four quadrantal clinostatic stones joining up together at the base into a square and dressed up to give the shape of a truncated paraboloid to the entire monument. The topikal or hat stone rests on the truncated surface.			

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Madras

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Digri	Ranchi	Bih.	247
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Doddakadattur	Kolar	Mys.	228
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Kalapatti	Coimbatore	Tn.	78
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Rangapura	Mysore	Mys.	146
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GLOSSARY OF TERMS

Alignment: A row of menhirs(q.v.) planted in a line.

antechamber : A small chamber attached to a cist (q.v.) at one end. Cists with antechambers are found in the Pudukkottai area of Tamilnadu.

aperture : see port-hole.

avenue : Arrangement of alignments in parallel lines. Examples of avenues are seen at Hanamsagar, Andhra Pradesh.

barrow : An earthen mound, round, oval or oblong in shape. At Amirthamangalam, District Chingleput, Tamilnadu, barrows are distinguished by a spread of stone chips and are found to entomb urns. Barrows are not bounded by a circle of stones.

Black-and-red Ware : A particular variety of earthen vessles whose interior and / or a portion of the rim or mouth is black while the rest of the body on the exterior is red. The effect is generally believed due to inverted firing. This Ware in Indian context is found from Harappan levels at Lothal, District Ahmedabad, Gujarat and continues till the megalithic times. This together with iron, forms the cultural trait of Indian megaliths.

cairn : A tumulus of heaped up stone rubble.

cairn-circle : A cairn circumscribed by one or more circle of stones.

capstone : The top covering stone of a cist, dolmenoid cist, pit. etc.

cist : A box-like underground chamber generally built of a single stone-slab for each side and with a capstone. It may also have a floor-slab. Sometimes a small opening, port-hole, (q. v.) of varying shapes viz., circular, semi-circular, trapezoidal, etc., in one of the side-slabs, usually in the east, is found. The semi-circular port-hole is always located at the top of the orthosat (q. v.) just below the capstone. A cist with a port-hole is known port-holed cist. Cists may or may not be bounded by a circle of stones.

Cists are found to have been partitioned in several chambers along the longer axis, (e.g., Nagarjunakonda) and sometimes in two tiers as well (e.g. Gajjalakonda).

In the Pudukkottai area, a particular variety of cists called transcepted cists are present. Here the cist is divided into two along the longer axis with the aid of a slab. One half is again divided horizontally into a upper and lower chamber, each having a separate port-hole. Sometimes an antechamber (q. v.) is attached to one side. Such a cist is known as transcepted cist with antechamber.

cist-circle : Cist circumscribed by a circle of stones.

cromlech : (Welsh *crom* = bent and *lech* = stone). A vague term used by earlier writers connoting a dolmen bounded by a circle of stones, a kistvaen *(q.v.)* open on one side and a structure resembling a dolmen with three orthostats and a floor-slab.

cup marks : small cup-like depressions in a row or rows cut on the bounding stones of a cairn-or stone-circle. These are reported from central India, particularly from Junapani near Nagpur.

dolmen : A chamber built over the natural ground level with several orthostats *(q.v.)* and covered by a capstone comprising one or more stones; cairn filling or the presence of port-hole being optional. Like-wise it may or may not be surrounded by a circle of stones.

In Bastar it is known as *hanal gharia* (ghost throne) and *danyakal* when it is low and among the Bondos as *gunom*.

dolmenoid-cist : A burial chamber constructed of stones both for the orthostats *(q.v.)* and capstone and circumscribed by a circle of stones and covered with stone rubble. This is subdivided into three varieties: (1) of dressed laterite -dressing being confined to the inner side only - and with granite floor-slab; (2) built partially over the ground with major portion of the orthostats and the capstone being visible; and (3) the one with the capstone flush with the cairn filling. The first is restricted to the Chingleput District and the rest to the granitic zone of the same District. Excavations at Sanur revealed that the

second type contained a single sarcophagus while the third several. An opening on the east which was closed by a thin stone or slab corresponding to the door-slab (q. v.) was also noticed.

door-slab: A slab or thin stone utilized for closing the opening in the orthostat. At Brahmagiri such a slab was noticed in a pit circle (meg. VII) and hence non-functional there.

danyakal: A term used in Bastar to denote a low dolmen in front of a commemorative pillar.

graffiti: Post-firing marks scratched with a sharp instrument on the body of earthen vessels usually on the outer side, but rarely on the inner side as well. The scratchings generally do not penetrate the slip.

hoodstone: see kudaikal

kalkuthu: (Tamil: lit. planted stones) A term signifying megaliths.

kistvaen: (Anglicised spelling of Welsh *cistfaen* meaning *cist*= chest and *faen* aspirated form of *maen*=stone). A very vague term used by earlier writers to connote cists, both with and without port-hole and dolmen.

kudaikal: A dressed lateritic stone of the shape of a low dome resting on its flat bottom over the ground and usually concealing a burial pit. In appearance it resembles the local handleless umbrella (*kundan kudai*) made of leaves. A variant is the multiple kudaikals where a circle of 'sectorally dressed clinostatic lateritic stones' converging towards the top but leaving a big gap encloses several kudaikals. These are restricted to the Kerala region.

kurumbarkudi: (Tamil lit. habitation of the kurumbars, a tribe of shepherds.) A general term for megaliths.

kuranguppattadai: also *kuranguppattarai* (Tamil lit. workshop of monkeys). A term used in a late Tamil inscription for megalithic monuments.

madamakkaltali: (Tamil corruption of *mudumakkaltali* lit. urn or jar of the aged). A term signifying burial urns.

mandavarkuli: (Tamil meaning pit of the dead) a general term used for signifying megalithic burials.

megalith: (From Greek *megas*=large, *lithoi*=stone) A general term connoting all types of burial or commemorative

monuments, including urn-burial, in whose construction stones of huge sizes have been used.

menhir : A monolith, usually undressed, planted as a momorial stone. In Kerala menhirs are of laterite. Excavation of a menhir at Maski, Mysore, revealed nothing below it. Tamil equivalent of this would be *nadukal*, a term often mentioned in literature.

morera angadi: (Kannada, meaning bazaar of the Mauryas). A general term denoting megalithic monuments.

morairu mane: (Kannada, meaning house of the Mauryas). A general term for megaliths.

orthostat : (From Greek *ortho*= straight, *stat*= standing). A word representing a vertical slab or stone used in the construction of cist, dolmen or dolmenoid-cist.

pandavagullu : (Telugu stone of the pandavas). A general term denoting megaliths.

pandavarkatte : (Kannada, meaning platform of the pandavas). A general term signifying megalithic monuments.

pandavarkoil : (Tamil, meaning temple of the pandavas). A local term representing megaliths in general.

pandukuli or *pandukuri :* (Tamil, pit of the pandavas). A general term for megaliths.

panduramane : (Kannada, house of the pandavas). A general term denoting megalithic monuments.

parallelogram : Alignments *(q.v.)* set in parallel lines to form a parallelogram.

pit-circle : A cairn- or stone-circle concealing a pit burial. This would be a secondary classification after excavation. Pit-circles have come to light after excavations at Brahmagiri, Sanur, Kunnattur, Maski, etc. In a few cases it has been found that the side|sides are lined with small stones piled up in courses (e.g., Kunnattur).

port-hole : A small opening of varying shapes, circular, semi-circular, trapezoidal etc, usually found in the eastern orthostat. Its purpose has been variously suggested: for introduction of bones, burial goods, burning of incense, etc. According to Gordon Childe this is a diagonsitic trait linking the western megalith with the Indian ones.

rakshasagullu: (Telugu = stone of the *rakshasas*, indicative perhaps of the huge stones employed). A general term for megaliths.

rock-cut cave: Restricted to Kerala region. It is an underground chamber consisting of an entrance shaft from ground level and an entrance doorway leading to the chamber proper. The chamber takes several shapes, circular, oval, oblong, etc. In a few cases ledges, foot-holds or steps are cut in the entrance shaft. In the chamber itself benches are to be found. In some a central pillar or a circular hole at the top is present.

Rock-cut caves are single-double-and multichambered. However, entrance shaft to the cave chambers is common. In the multichambered variety the chambers are on either side and ahead of the shaft, and are entered through seperate doorways located in the entrance shaft. In the double-chambered variety the second chamber is on one side of the shaft.

In rare cases the caves are surrounded by a circle of stones.

sarcophagus: (From Greek *sarco* = flesh, fagus = eating). A coffin used as a depository for skeletal remains. In India megaliths have yielded mostly terracotta legged sarcophagi (several legs in two or more rows) but those of stone are exceptional (as at Polichetticherugudda, Andhra Pradesh). Again those are available from a rock-cut cave at Feroke. Sarcophagi of the shape of a caprisoned ram and elephant have been found in Districts Cuddapah and Bellary respectively. Usually these are found in dolmenoid-cists. Exceptions, however, are from rock-cut cave at Feroke, cist at Sulur and pit at Kunnattur.

siddharkatte: (Kannada = platform of the *siddhas*). A local term for megaliths.

stone-circle: A circle, oval round or irregular formed by several boulders and enclosing a space. Usually there is no cairn filling and if present it is negligible.

stone enclosure: An area enclosed by several boulders. An apsidal enclosure was noticed at Piklihal.

Topikal: (Topi (Hindi) = cap and Kal (Tamil) stone). Also known as hatstone. These, restricted to Kerala region, are of

laterite. Topikal is made up of four "quadrantal" standing stones joined together and dressed in the shape of a cone with a square base. The top stone, also dressed and in the form of a low flat bottomed dome rests on the conical top of the standing stones. Excavation of this type have so far revealed nothing below.

vedarkudi: (Tamil= habitation of the hunters). A term signifying megalithic monuments.

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